611-TD-595-001

EOSDIS Core System Project

M&O Procedures: Section 13—Production Planning

Interim Update

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Raytheon Systems Company
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Preface

This document is an interim update to the Mission Operations Procedures Manual for the ECS Project, document number 611-CD-600-001. This document has not been submitted to NASA for approval, and should be considered unofficial.

The document has been updated to add troubleshooting procedures and a procedure for logging in to ECS hosts. In addition, the format of the document has been modified somewhat and minor changes have been made to several procedures.

Any questions should be addressed to:

Data Management Office
The ECS Project Office
Raytheon Systems Company
1616 McCormick Drive
Upper Marlboro, Maryland 20774-5301

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13. Production Planning

13.1 Production Planning Process

The Planning Subsystem supports site operations in developing a production plan based on locally defined strategy. Production Planning involves creation of Production Requests using the Production Request Editor and the scheduling of the Production Requests using the Planning Workbench.

The Production Planner defines ECS science data processing requirements in terms of Production Requests (PRs).

- A PR is an order for data to be produced by the Data Processing Subsystem.
- Each PR identifies specific science software [in the form of a Product Generation Executive (PGE)] that is to be run and the data (in terms of a time period, set of orbits, etc.) that is to be processed to produce the desired output product(s).

In response to a PR the Planning Subsystem generates either one or a series of Data Processing Requests (DPRs).

- Each DPR corresponds to one execution of a single PGE.
- Each DPR contains the information that is needed by the Data Processing Subsystem to execute the PGE and produce the desired output product(s).

The Production Planner defines Production Strategies that specify values in several categories related to DPRs.

- The values specified in a Production Strategy can be used in determining the priority of each DPR.

The Production Planner creates a Production Plan that specifies which PR(s) [and consequently which DPR(s)] should be sent to Data Processing at one time.

- When creating a Production Plan, the Production Planner can associate a particular Production Strategy with the PRs in the plan.
- When the Production Planner "activates" a Production Plan, the associated DPRs become accessible to Data Processing.

The Production Planner uses the following principal tools in the Planning Subsystem:

- Production Request Editor GUI - for creating Production Requests and Data Processing Requests.
- Production Strategies GUI - for creating Production Strategies.
- Planning Workbench GUI – for creating and activating Production Plans.
- Planning Timeline – for reviewing Production Plans.

Subsequent sections related to Production Planning address the following topics:

- Section 13.2 An overview of the process for creating or deleting Production Requests and Data Processing Requests and step-by-step procedures for using the Production Request Editor.
- Section 13.3 An overview of the process for creating, modifying, or deleting Production Strategies and step-by-step procedures for using the Production Strategies GUI.
- Section 13.4 An overview of the process for creating, activating, or deleting Production Plans and step-by-step procedures for using the Planning Workbench GUI and Planning Timeline.
- Section 13.5 An overview and step-by-step procedures for resetting/cleaning the PDPS database.
- Section 13.6 Referral to the procedures for tuning system parameters included in Chapter 14, Production Processing.
- Section 13.7 An overview of the process and step-by-step procedures for troubleshooting Production Planning problems.

Data Preprocessing (DPREP)

DPREP (data preprocessing) consists of sets of PGEs that use a statistical approach to convert Level 0 (L0) ephemeris and attitude ancillary data for a particular satellite (e.g., Terra, Aqua) into SDP Toolkit native binary format without altering or modifying the scientific content of the data sets.

DPREP PGEs are supplied by ECS, unlike most PGEs, which are provided by the Science Computing Facilities that ECS supports. Release 6A DPREP supports Terra and Aqua operations.

Terra DPREP

Terra DPREP consists of the following three PGEs:

- AM1Eph or Step 1 (EcDpPrAm1EdosEphAttDPREP_PGE), a ksh script that serves as a driver for the following three executables:
  - EcDpPrAm1EdosAncillary
  - EcDpPrAm1EdosEphemerisRepair
  - EcDpPrAm1ToolkitToHdf
- FddAtt or Step 2 (EcDpPrAm1FddAttitudeDPREP_PGE).
- RepEph or Step 3 (EcDpPrAm1FddEphemerisDPREP_PGE).

Operationally, Steps 1 and 2 are scheduled daily and run independently of one another. Step 3 is scheduled and run on an as-needed basis.

There are several sources of information on the Terra DPREP PGEs and how to run them:

- 184-TP-001-002, Terra Spacecraft Ephemeris and Attitude Data Preprocessing.

- 611-CD-600-001, Mission Operation Procedures for the ECS Project, Chapter 11.
- Two files installed on the science processor hosts (e.g., e0spg01, g0spg01, l0spg01) in the /usr/ecs/*MODE*/CUSTOM/data/DPS directory.
  - "DPREP_README"
  - "HowtoRunDPREP"

The Terra DPREP PGEs process Level 0 Terra (AM-1) spacecraft data (e.g., ESDT AM1ANC) provided by EDOS. The output files/granules of the DPREP PGEs are subsequently used in the processing of data from various instruments on the satellite. They provide the following types of ancillary (non-science) data:

- Ephemeris.
  - Spacecraft location: ephemeris (or orbit) data include: latitude, longitude, and height.
- Attitude.
  - Orientation of the satellite, including yaw, pitch, and roll angles; and angular rates about three axes.

AM1Eph (Step 1 DPREP: EDOS Level 0 Ancillary Data)

EcDpPrAm1EdosEphAttDPREP_PGE consists of a script that coordinates the following three DPREP executables:

- EcDpPrAm1EdosAncillary.
- EcDpPrAm1EdosEphemerisRepair.
- EcDpPrAm1ToolkitToHdf.

EcDpPrAm1EdosAncillary reads in an AM-1 L0 (EDOS) ancillary data set (ESDT AM1ANC). It also reads another set of AM-1 L0 (EDOS) ancillary data set. The second set of L0 data is required to ensure that incomplete orbits in the first data set get complete orbit metadata records. The only data that is extracted from the second data set is the descending node time and longitude. EcDpPrAm1EdosAncillary also reads in ephemeris and attitude data (ESDT AM1EPHN0 and ESDT AM1ATTN0). These would be the last ephemeris/attitude data sets generated from a previous run of the PGE.

If EcDpPrAm1EdosAncillary signals that a short gap was detected, EcDpPrAm1EdosEphemerisRepair reads the scratch file created by EcDpPrAm1EdosAncillary, fills the gap, and writes a gap-filled native-format (Toolkit-format) ephemeris file.

NOTE: EDOS-supplied ephemeris data are the primary source of ephemeris for Terra. However, EDOS-supplied attitude data are not the primary source of attitude for Terra. Attitude data supplied by the Flight Dynamics Division (FDD) are considered the primary source of Terra attitude.

EcDpPrAm1EdosAncillary performs a full complement of data quality analyses on the EDOS ephemeris data. In contrast EDOS-supplied attitude data are subject to minimal quality checks and never undergo data repair because EDOS-supplied attitude data are not considered good enough for science data processing. EDOS

attitude data are “use at own risk” data; the data recommended for science data processing are the FDD attitude data routinely preprocessed by Step 2 DPREP (EcDpPrAm1FddAttitudeDPREP_PGE).

EcDpPrAm1ToolkitToHdf takes the native format ephemeris file and produces a corresponding HDF file and a metadata file.

EcDpPrAm1EdosEphAttDPREP_PGE produces Toolkit- and HDF-format attitude (ESDTs AM1ATTN0 and AM1ATTH0) and ephemeris (ESDTs AM1EPHN0 and AM1EPHH0) data sets.

NOTE: The Level 0 (input) data sets represent two-hour periods of time but processing cannot be performed on the most recently available two-hour data set. Step 1 processing needs to look forward in the time stream in order to complete orbit metadata processing.

FddAtt (Step 2 DPREP: Definitive Attitude Data)

EcDpPrAm1FddAttitudeDPREP_PGE reads in both the current FDD attitude data set (AM1ATTF) and the next FDD attitude data set. It also reads in the attitude data set it produced with its last run. The output of the process is a native-format attitude file (ESDT AM1ATTNF) and an HDF-format attitude file (ESDT AM1ATTHF). A metadata file is produced for each data file.

RepEph (Step 3 DPREP: Repaired Ephemeris Data)

If Step 1 finds too many missing data points in the ephemeris data (e.g., AM1EPHH0 and AM1EPHN0 granules have gaps of greater than 60 seconds), it signals that there are problems with the data. The Production Planner receives an e-mail message indicating the problems in the preprocessed Terra ephemeris granules and notifies the FDD (e.g., by telephone) that a repaired ephemeris file (AM1EPHF) is needed for the time span of the granule that has the gap.

When the repaired ephemeris file has been ingested, EcDpPrAm1FddEphemerisDPREP_PGE reads in the repaired ephemeris data set and the EOS_AM1 ephemeris data in Toolkit native format. It produces replacement ephemeris data sets (AM1EPHH0 and AM1EPHN0).

Terra DPREP Profiles

As previously mentioned DPREP processing has data requirements beyond the current two-hour segment. Data from the preceding and following segments are used for performing consistency checks on the ephemeris and attitude data streams when the data streams bridge segment boundaries. However, there is no guarantee that data from the preceding and following segments will always be available. Consequently, four data processing profiles have been developed for each of the three DPREP steps to accommodate the various permutations of data availability:

- Profile 1 is used when data are available from the preceding, current, and following segments.

- Profile 2 is used when data are available from the current and following segments only.
- Profile 3 is used when data are available from the preceding and current segments only.
- Profile 4 is used when data are available from the current segment only.

Profile 1 is used for nominal DPREP operation. It is the profile of each DPREP step that is run on a routine basis.

Profile 2 (no preceding data, but following data is available) initializes DPREP's processing of a given step's ephemeris and/or attitude data stream. When Profile 2 has been run on a data segment, Profile 1 (preceding and following data available) assumes processing responsibility on all data segments thereafter until data dropout or mission end is encountered.

Profile 3 (preceding data available, but no following data) processes the data segment that immediately precedes data dropout and, therefore, terminates processing on a given step's ephemeris and/or attitude data stream.

Profile 4 is used for processing isolated data segments and is not likely to be scheduled operationally.

In the big picture of the mission, DPREP processing on the very first data segment would require running Profile 2. The next data segments would be processed using Profile 1 processes. The very last data segment of the mission could be processed using Profile 3. However, PDPS never halts DPREP processing if a following data set does not become available. So if a following data set does not become available after a four-hour wait period, DPREP (Profile 1) reverts to Profile 3 processing, which does not depend on the raw input data set from the segment that follows. Given the processing flexibility of Profile 1, neither the scheduling of Profile 3 or the scheduling of Profile 4 is envisioned operationally.

Aqua DPREP

Aqua DPREP consists of the following processes:

- PM1DefEph (EcDpPrPm1FddEphemerisDPREP_PGE) Aqua Orbit Processing.
- PM1DefAtt (EcDpPrPm1AttitudeDPREP_PGE) Aqua Attitude Processing.

One source of information on the Aqua DPREP PGEs and how to run them is the "HowtoRunPm1DPREP" file installed on the science processor hosts (e.g., e0spg01, g0spg01, l0spg01) in the /usr/ecs/*MODE*/CUSTOM/data/DPS directory.

Aqua DPREP includes the processing of both orbit and attitude data:

- Orbit data is received from the FDD in definitive orbit data files.
  - Definitive orbit data arrives at the DAAC daily about eight to ten hours after the end of the UTC day.

- The Ground-Based Attitude Determination (GBAD) data that is used in the processing of attitude data is received from the ECS Mission Operations Segment (EMOS) in "carry-out" files.
  - GBAD carry-out files (PMCOGBAD) are used in conjunction with definitive orbit data to prepare "refined" (definitive) attitude data.

Operationally, Orbit and Attitude PGEs are scheduled daily and run independently of one another. However, Orbit is always run first on any given data segment because attitude processing depends on orbit data to complete its processing.

PM1DefEph (Aqua Orbit Processing)

Aqua orbit processing includes reformatting FDD definitive ephemeris data sets into Toolkit native format and HDF format. In addition, orbit metadata records are generated for the product data sets.

The Aqua Definitive Orbit DPREP PGE processes Aqua ancillary data sets (i.e., PM1EPHD, definitive ephemeris data) supplied by FDD. The output files/granules of the Aqua Definitive Orbit DPREP PGE provide satellite ephemeris data and are subsequently used in the processing of Aqua satellite attitude data.

The Aqua Definitive Orbit DPREP PGE reads in both the current PM1EPHD definitive ephemeris data set for Aqua and a previous PM1EPHND preprocessed Aqua platform definitive ephemeris data set in native format. The outputs of the process are preprocessed Aqua platform definitive ephemeris data sets in native format (PM1EPHND) and HDF format (PM1EPHHD). A metadata file is produced for each data file.

PM1DefAtt (Aqua Attitude Processing)

Aqua Refined Attitude DPREP inputs are from ESDTs PMCOGBAD and PM1EPHND (preprocessed Aqua platform definitive ephemeris data in native format). The outputs of Aqua Refined Attitude DPREP are PM1ATTHR (Aqua refined attitude data in HDF-EOS format) and PM1ATTNR (Aqua refined attitude data in native format).

The attitude DPREP stream executes twelve times per day at two-hour intervals. The PMCOGBAD data is received at the DAAC approximately every two hours. The definitive orbit data arrives after the PMCOGBAD data.

Interpretation of the attitude data depends on the value of the GNCC status word contained in the carry-out file GBAD data. If the value of the GNCC status word is 110 (which specifies "fine pointing" mode) the attitude is good for science processing. Any other value indicates a mode that provides inadequate attitude for science data.

Aqua DPREP Profiles

As mentioned with regard to Terra DPREP processing Aqua DPREP data requirements extend beyond the current two-hour segment. Data from the preceding and following segments are used in performing consistency checks on the ephemeris and attitude data streams when the data

streams bridge segment boundaries. However, there is no guarantee that data from the preceding and following segments will always be available. Consequently, four data processing profiles have been developed for each of the Aqua DPREP PGEs to accommodate the various permutations of data availability. The Aqua DPREP profiles have the same functions as the corresponding Terra DPREP profiles.

13.2 Creating/Deleting Production Requests and Data Processing Requests

From the Production Request Editor, the Production Planner can create new production requests, modify or delete production requests, and review or delete data processing requests.

Each procedure outlined has an **Activity Checklist** table that provides an overview of the task to be completed. The outline of the **Activity Checklist** is as follows:

Column one - ***Order*** shows the order in which tasks should be accomplished.

Column two - ***Role*** lists the Role/Manager/Operator responsible for performing the task.

Column three - ***Task*** provides a brief explanation of the task.

Column four - ***Section*** provides the Procedure (P) section number or Instruction (I) section number where details for performing the task can be found.

Column five - ***Complete?*** is used as a checklist to keep track of which task steps have been completed.

Table 13.2-1 provides an Activity Checklist for activities related to the creation of Production Requests and Data Processing Requests.

Table 13.2-1. Production Requests and Data Processing Requests - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Planner	Log in to ECS Hosts	(P) 13.2.1	
2	Production Planner	Launch the Production Request Editor	(P) 13.2.2	
3	Production Planner	Create a New Production Request	(P) 13.2.3	
4	Production Planner	Edit/Modify a Production Request	(P) 13.2.4	
5	Production Planner	Delete a Production Request	(P) 13.2.5	
6	Production Planner	Display Data Processing Request Information	(P) 13.2.6	
7	Production Planner	Delete a Data Processing Request	(P) 13.2.7	
8	Production Planner	Re-Generate Granules Affected by Loss of Files from the Archive	(P) 13.2.8	

NOTE: The procedures that follow are written under the assumption that PGEs have been previously created and are available for use with the same rule criteria that you are attempting to use.

13.2.1 Log in to ECS Hosts

Logging in to ECS hosts is accomplished from a UNIX command line prompt. Table 13.2-2 presents (in a condensed format) the steps required to log in to ECS hosts. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow.

1 At the UNIX command line prompt enter:

setenv DISPLAY <client name>:0.0

- Use either the X terminal/workstation IP address or the machine-name for the client name.
- When using secure shell, the DISPLAY variable is set just once, before logging in to remote hosts. If it were to be reset after logging in to a remote host, the security features would be compromised.

2 In the terminal window (at the command line prompt) start the log-in to the appropriate host by entering:

/tools/bin/ssh <host name>

- The **-l** option can be used with the ssh command to allow logging in to the remote host with a different user ID. For example, to log in to x0pls02 as user cmops enter:

  /tools/bin/ssh -l cmops x0pls02

- Depending on the set-up it may or may not be necessary to include the path (i.e., /tools/bin/) with the ssh command. Using ssh alone is often adequate. For example:

  ssh x0pls02

  - or -

  ssh -l cmops x0pls02

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02.**
- Examples of Science Processor host names include **e0spg01, g0spg01, l0spg01.**
- Examples of Queuing Server host names include **e0sps04, g0sps06, l0sps03.**
- Examples of PDPS DBMS Server host names include **e0pls02, g0pls02, l0pls01.**
- Examples of Distribution Server host names include **e0dis02**, **g0dis02**, **l0dis02**.
- Examples of SDSRV Server host names include **e0acs05**, **g0acs03**, **l0acs03**.
- Examples of Access/Process Coordinators (APC) Server host names include **e0acg11**, **g0acg01**, **l0acg02**.

- Examples of Ingest Server host names include **e0icg11, g0icg01, l0icg01, n0icg01**.
- Examples of Interface Server 01 host names include **e0ins02, g0ins02, l0ins02**.
- Examples of Interface Server 02 host names include **e0ins01, g0ins01, l0ins01**.
- If you receive the message, "Host key not found from the list of known hosts. Are you sure you want to continue connecting (yes/no)?" enter **yes** ("y" alone will not work).
- If you have previously set up a secure shell passphrase and executed **sshremote**, a prompt to **Enter *passphrase* for RSA key '<*user@localhost*>'** appears; continue with Step 3.
- If you have not previously set up a secure shell passphrase, go to Step 4.

3 If a prompt to **Enter passphrase for RSA key '<*user@localhost*>'** appears, enter:

<passphrase>

4 At the **<*user@remotehost*>'s password:** prompt enter:

<password>

- A command line prompt is displayed.
- Log-in is complete.

Table 13.2-2. Log in to ECS Hosts - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	**setenv DISPLAY <client name>:0.0**	**enter text, press Enter**
2	**/tools/bin/ssh <host name>** (as applicable)	**enter text, press Enter**
3	**<passphrase>** (if applicable)	**enter text, press Enter**
4	**<password>** (if applicable)	**enter text, press Enter**

13.2.2 Launch the Production Request Editor

The Production Request Editor is invoked from a UNIX command line prompt. Table 13.2-3 presents (in a condensed format) the steps required to launch the Production Request Editor. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "utilities" is the directory containing the Planning Subsystem start-up scripts.

3 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

- Application home environment is entered
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.

4 Start the Production Request Editor by entering:

EcPlPRE_IFStart <MODE>

- The **Production Request Editor** is launched.

Table 13.2-3. Launch the Production Request Editor - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	Set environment variables if necessary	**enter text, press Enter**
4	**EcPlPRE_IFStart <MODE>**	**enter text, press Enter**

13.2.3 Create a New Production Request

The process of creating a new Production Request begins with the Production Planner starting the Production Request Editor GUI. The Production Planner specifies the PGE, duration, and comments for the new Production Request.

TYPES OF DATA PROCESSING: ECS accommodates four general types of data processing.

Routine Processing	Pre-defined software production processing that is periodic and keyed to data arrival. For example, every day a Production Planner includes in the daily schedule a DPR for generating a particular Level 1A product from the most recent Level 0 data from the applicable satellite instrument.

Reprocessing	Typically involves using a new, improved PGE to process data that had previously been processed with an older version of the PGE.
Regeneration	A type of reprocessing that is performed for the purpose of replacing a missing or damaged product. It is necessary when an existing product has been corrupted or deleted. If the damaged or missing product is needed for shipping or as input for additional processing, it must be recreated. To the extent possible the regenerated file is created using the same input, the same processing parameters, and the same algorithm as the original file.
On-Demand Processing	Involves ad-hoc processing initiated by an end-user (as opposed to the Production Planner). For example, a researcher using data from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) instrument on the Terra satellite may need a particular Level 2 product that has not yet been generated. The ASTER researcher would submit an on-demand request to have the product generated from a Level 1B product stored in the archive.

NOTE: When reprocessing, it is important to generate DPRs for one chain completely before generating any DPRs for the next chain. For example, if PGE1 produces Product1 that is input to PGE2 that produces Product2 that is input to PGE3 that produces Product3, PRs for PGE1, PGE2, and PGE3 should be created for each of those DPRs for Chain1. Then PRs for Chain2 can be created, etc.

A reprocessing DPR selects the latest version granule in the database as input. Consequently, if Product1 from Chain2 were in the database before the DPR for Chain1 PGE2 was created, the Chain1 DPR for PGE2 would select the Product1 from Chain2 as its input and Product1 from Chain1 would not be used.

PRODUCTION RULES: Production Rules provide templates for Instrument Teams to describe the relationship(s) between PGEs and their input and output data. The assumption of this documentation is that the user has knowledge of the specific production rules under which the PGE was created. Listed below is a sampling of the available production rules.

Basic Temporal	Temporal (time) range of inputs matches the temporal range of outputs.
Advanced Temporal	Temporal range of inputs is offset from the expected temporal range of inputs and outputs.
Alternate Inputs	PGE is run with different inputs based on the availability of various alternate input data sets.

Optional Inputs	PGE is run with specified optional inputs if available; otherwise, PGE is run without them.
Min/Max Granules	Minimum number of input granules needed for full data coverage and maximum number of input granules to search for may be specified. Minimum and maximum number of outputs expected from the PGE may be specified.
Optional DPRs	The only DPRs executed are those for which the non-routine key input data actually become available (i.e., are either produced in data processing or can be acquired from the archive).
Metadata Checks	DPR is run only if input data's metadata value(s) meet(s) certain criteria.
Metadata Query	Input granule selection is based on metadata value(s).
Spatial Query/Spatial Pad	Input granule selection is based on the spatial coverage of another input (i.e., the key input). Spatial Pad involves adding area to all sides of the key input's spatial shape. All granules that intersect the expanded area are retrieved.
Closest Granule	DPR is generated if a required input granule within a particular time range (rather than an exact time) is available; otherwise, no DPR is generated.
Orbital Processing	Selection of input times is based on orbit information.
Multiple DPRs for Insertion Time	Allows the creation of DPRs for multiple granules with the same insertion time (affects ASTER L1B routine processing only).

Table 13.2-4 presents (in a condensed format) the steps required to create a new production request. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Request Editor** (refer to Section 13.2.2).

- The **Production Request Editor** GUI is displayed.

ASTER *routine processing makes use of the* ***Optional DPRs Production Rule*** *to schedule and execute ASTER PGEs for new data that have been archived. The Production Planner specifies the* ***insertion time*** *range (i.e., the time period when the desired data were archived) as opposed to the* ***collection time*** *(when the satellite instrument gathered the data).*

2 **Single-click** on the **PR Edit** tab.

- The **PR Edit** GUI is displayed.

NOTE: If the GUI is unresponsive, always check to see if a prompt window is hidden behind the main GUI waiting for a response. Respond to the window, then continue with the Production Request Editor GUI.

3 **Single-click** on either the **Collection Time** or **Insertion Time** button (as applicable) if data are to be processed on the basis of time (rather than orbit).

- Normally the **Collection Time** (time when the data were collected by the instrument on the satellite) is used for specifying what data are to be processed.
- The **Insertion Time** option is available primarily for ASTER processing to allow the generation of DPRs for all data contained on an ASTER tape received from the ASTER Ground Data System (GDS).
  - If the **Insertion Time** option is selected, the **Multiple DPRs** toggle button appears on the **PR Edit** GUI.

4 **Single-click** and **hold** the **PR Type** option button to display a menu of types of production requests, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

- Options are: **Routine, On-Demand** [not currently available for selection], and **Reprocessing.**

5 **Single-click** and **hold** the **User Type** option button to display a menu of types of users, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

- Options are: **Operator, DAAC Manager, Scientist,** and **Researcher.**

NOTE: The **PR Name** and **Origination Date** fields will be filled automatically when the Production Request is saved at the end of the procedure. (You do not need to fill in these fields.)

6 In the **Originator** field either enter the actual name of the originator or enter:

<user name>

7 In the **Priority** field enter:

<priority>

- Enter a number in the range of one (1) to ten (10).
  - One (1) has the highest priority; ten (10) has the lowest priority.

- The **Priority** field specifies the **Production Request Editor** priority to be included in the Data Processing Request(s) that result(s) from the Production Request.
- **Production Request Editor Priority** is subsequently weighted according to the value specified in the Production Strategy selected from the Planning Workbench when a Production Plan is created that uses the Production Request.

8 **Single-click** on the **PGE...** button.
- The **PGE** GUI is displayed.

9 Select the desired PGE by **single-clicking** on the PGE.
- The desired **PGE** is highlighted.

10 **Single-click** the **Ok** button.
- The **PR Edit** GUI is displayed.
- The following fields are automatically filled:
  - **Satellite Name.**
  - **Instrument Name.**
  - **PGE Name.**
  - **PGE Version.**
  - **Profile ID.**

11 **Single-click** on the **PGE Parameters...** button.
- The **PGE Parameters** GUI is displayed.
- PGE parameter data are displayed in a table that has the following columns:
  - **Parameter Name.**
  - **Logical Id.**
  - **Default Value.**
  - **Override Value.**
  - **Description.**

12 Select the parameter (if any) with the default value to be changed by **single-clicking** on the **Parameter Name** row.
- The parameter row is highlighted.
- Only the default values can be modified.
- Modify parameter values when and as directed by the customer (e.g., MODIS) only.

13 If a parameter with a default value to be changed has been selected, in the **Override Value** field enter:

<override value>

14 If a parameter with a default value to be changed has been selected, **single-click** on the **Apply** button at the bottom of the **PGE Parameter Mappings** window.
- The new value is displayed in the **Override Value** column.

- Repeat Steps 12 through 14 to modify additional parameters (if applicable).

15 **Single-click** on the **Ok** button to approve the changes.

- The **PR Edit** GUI is displayed.

*****The procedures that follow involve the implementation of specific PRODUCTION RULES.*****

MODIS *uses 1) Temporal Rules, to include Basic and Advanced Temporal specifications,*
2) Orbit-Based Activation ***and***
3) Period/Calendar Specification,
4) Conditional Activation,
5) Additional inputs ***and***
6) DataBase Query.

ASTER *uses both Temporal Rules, Basic and Advanced Temporal specifications. In addition, ASTER routine processing makes use of the Optional DPRs Production Rule to schedule and execute ASTER PGEs for new data that have been archived. The Production Planner specifies the* ***insertion time*** *range (i.e., the time period when the desired data were archived) as opposed to the* ***collection time*** *(when the satellite instrument gathered the data).*

MISR *has primarily "orbit" based PGEs.*

Multiple "production rules" can be combined to complete a PR, however, ***Temporal- and Orbit-based rules*** *cannot be combined.*

To execute either a ***Basic or Advanced Temporal Production Rule****, you must complete Steps 1-15, specified above in 13.2.3. and specify date and time information for processing (Steps 30 and 31). Then continue processing with Step 34, etc. as necessary.*

METADATA-BASED PRODUCTION RULE

16 If the PGE is subject to a metadata-based production rule and the value(s) to be checked need(s) to be changed, **single-click** on the **Metadata Checks…** button, perform Steps 17 through 21 as applicable; otherwise go to Step 22.

- The **MetadataChecks** GUI page is displayed.
- The **MetadataChecks** GUI has an **InputDataType** window that lists the input data types for the PGE.
- In addition, the **MetadataChecks** GUI has a metadata checks (**MetaDataField-Operator-Value-Type**) window in which there is a table that lists the following information concerning each metadata check:
  - **MetaDataField.**
  - **Operator.**
  - **Value.**
  - **Type.**
- Initial values for metadata checks are entered during SSI&T; however, it is possible to modify the values using the **MetadataChecks** GUI when creating a production request.

– Modify metadata check values when and as directed by the customer (e.g., MODIS) only.

17 If it is necessary to change any value(s) for metadata checks, select an input data type with a value to be changed by **single-clicking** on the corresponding row in the **InputDataType** window.

- The input data type row is highlighted.
- The metadata check information for the highlighted input data type is displayed in the **MetaDataField-Operator-Value-Type** window.

18 Select (highlight) a metadata field with a comparison value to be changed by **single-clicking** on the corresponding row in the **MetaDataField-Operator-Value-Type** window.

- The metadata field row is highlighted in the **MetaDataField-Operator-Value-Type** window.
- The identity of the metadata field is displayed in the **MetaDataField** window.

19 If it is necessary to change any value(s) for metadata checks, in the **Value** field enter:

<value>

20 **Single-click** on the appropriate button from the following selections:

- **OK** - to approve the new value and dismiss the **MetadataChecks** GUI.
  - The **Production Request - PR Edit** GUI is displayed.
  - Go to Step 22.
- **Apply** - to approve the new value without dismissing the **MetadataChecks** GUI.
  - Go to Step 21.
- **Cancel** - to return to the **Production Request** - **PR Edit** GUI without saving the new value.
  - The **Production Request - PR Edit** GUI is displayed.
  - Go to Step 22.

21 If any additional value(s) to be checked need to be changed, repeat Steps 17 through 20 as necessary.

ALTERNATE INPUTS PRODUCTION RULE

22 If the PGE is subject to the **Alternate Inputs Production Rule** and the timer settings or the order of alternate inputs need to be changed, **single-click** on the **Alternate Input Values…** button and perform Steps 23 through 28 as applicable; otherwise go to Step 29.

- The **AlternateInputValues** GUI page is displayed.
- The **AlternateInputValues** GUI has an **AlternateListName** window that lists the applicable alternate inputs.
- In addition, the **AlternateInputValues** GUI has an alternate input (**Order-DataType-LogicalID-Timer**) window in which there is a table that lists the following information concerning each alternate input:

- **Order.**
- **DataType.**
- **LogicalID.**
- **Timer.**

- The initial set-up for alternate inputs is entered during SSI&T; however, it is possible to modify the set-up using the **AlternateInputValues** GUI when creating a production request.

23 If it is necessary to change timer settings or the order of alternate inputs, first select (highlight) an alternate input to be changed by **single-clicking** on the corresponding row in the **AlternateListName** window.

- The alternate input row is highlighted.
- Information concerning the highlighted alternate input is displayed in the **Order-DataType-LogicalID-Timer** window.

24 Select (highlight) an alternate input with timer settings or the order of alternate inputs to be changed by **single-clicking** on the corresponding row in the **Order-DataType-LogicalID-Timer** window.

- Alternate input row is highlighted in the **Order-DataType-LogicalID-Timer** window.
- The data type of the alternate input is displayed in the **DataType** field.

25 If it is necessary to change the order of alternate inputs, **single-click** on the up/down arrow buttons adjacent to the **Order-DataType-LogicalID-Timer** window as necessary until the highlighted alternate input has the proper order listed in the **Order** column of the window.

- If necessary, repeat Steps 24 and 25 to change the order of additional alternate inputs.

26 If the timer setting for an alternate input is to be modified, verify that the alternate input with the timer setting to be changed has been highlighted then in the **Timer** fields enter:

<hh:mm:ss>

- Another method of changing timer settings (other than typing the numbers) is to **single-click** in each of the timer fields in turn and click on the up/down buttons adjacent to the **Timer** fields until the correct time is indicated.

27 **Single-click** on the appropriate button from the following selections:

- **OK** - to approve the new alternate input setting(s) and dismiss the **AlternateInputValues** GUI.
  - The **Production Request - PR Edit** GUI is displayed.
  - Go to Step 29.
- **Apply** - to approve the new alternate input setting(s) without dismissing the **AlternateInputValues** GUI.
  - Go to Step 28.
- **Cancel** - to retum to the **Production Request** - **PR Edit** GUI without saving the new alternate input setting(s).
  - The P**roduction Request - PR Edit** GUI is displayed.
  - Go to Step 29.

28 If any additional alternate input setting(s) need to be changed, repeat Steps 22 through 26 as necessary.

TIME- OR ORBIT-BASED PROCESSING?

29 **Single-click** on either the **UTC Time** (Coordinated Universal Time) button or the **Orbit** button, depending on whether data to be processed is specified by time or orbit.

- If **UTC Time** is selected, go to Step 30.
- If **Orbit** is selected go to Step 33.

TEMPORAL PRODUCTION RULES

30 Enter the desired data start date and time in the **Begin** fields in the following format:

<MM/DD/YYYY hh:mm:ss>

- As data are entered in each field the cursor automatically advances to the next field.
- Another method of entering date and time (other than typing the numbers) is to **single-click** in each of the date/time fields in turn and click on the up/down buttons adjacent to the date/time fields until the correct date/time is indicated.

31 Enter the desired data end date and time in the **End** fields in the following format:

<MM/DD/YYYY hh:mm:ss>

MULTIPLE DPRS FOR INSERTION TIME PRODUCTION RULE

32 If the Multiple DPRs for Insertion Time Production Rule applies, ensure that the **Multiple DPRs** toggle button is depressed.

- If necessary, **single-click** on the **Multiple DPRs** toggle button.
- If the Multiple DPRs for Insertion Time Production Rule does not apply, go to Step 35.

ORBITAL PROCESSING PRODUCTION RULE

33 If the Orbital Processing Production Rule applies, in the **From** field enter:

<first orbit number>

34 If the Orbital Processing Production Rule applies, in the **To** field enter:

<last orbit number>

CHAIN HEAD DESIGNATION

35 **Single-click** on the appropriate button from the following selections under **PGE Chain Head**:

- **Yes** - to designate the DPRs resulting from the PR as chain heads.
  - If designated as chain heads, the DPRs produce outputs that are to be used as inputs to downstream DPRs.
- **No** - to indicate that the DPRs resulting from the PR are not chain heads.

36 If the PGE specified in the PR is at the head of a chain and should be run on a particular virtual computer, **single-click** and **hold** the button adjacent to the **Computer** field to display a menu of available virtual computers, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

- If a particular virtual computer is selected, each DPR will be scheduled to run on the corresponding machine.
- If no virtual computer is selected, the system will try to schedule the DPRs on the machine where the bulk of the DPR's accepted inputs (both static and dynamic inputs) are already staged.

INTERMITTENT ACTIVATION

37 If Intermittent Activation applies, in the **Skip** field enter:

<number of DPRs>

- If Intermittent Activation applies, perform Steps 38 and 39.
- If Intermittent Activation does not apply, go to Step 40.

38 If Intermittent Activation applies, in the **Keep** field enter:

<number of DPRs>

39 If the first DPR is to be skipped, **single-click** on the **SkipFirst** button.

40 If applicable, in the **Comments** field enter:

<comments>

41 Start the process of saving the production request and generating DPRs by executing the following menu path:

File → Save As

- The **File Selection** window is displayed.

42 In the **Selection** field enter:

<PR name>

43 **Single-click** on the **OK** button to save the production request.

- Eventually a **Production Request Explosion into DPRs** dialogue box is displayed.
  - It may take several minutes or even hours for the process to complete.
  - If the explosion into DPRs is successful, the production request and corresponding DPR(s) are saved in the PDPS database and the Production Request **PR Name** and **Origination Date** fields are automatically updated.
  - If the explosion into DPRs is not successful, the dialogue box contains a message to that effect and it will be necessary to troubleshoot the problem.

44 **Single-click** on the **OK** button to dismiss the **Production Request Explosion into DPRs** dialogue box.

- The dialogue box is dismissed.

45 To clear the entries on the **Production Request Editor** GUI execute the following menu path:

File → New

- Return to Step 3 to create another new PR.

46 To exit the **Production Request Editor** execute the following menu path:

File → Exit

Table 13.2-4. Create a New Production Request - Quick-Step Procedures (1 of 3)

Step	What to Enter or Select	Action to Take
1	Launch **Production Request Editor** GUI	Use procedure in Section 13.2.2
2	**PR Edit** tab	**single-click**
3	Either **Collection Time** button or **Insertion Time** button (as applicable)	**single-click**
4	**<PR type>** (**PR Type:** button)	**single-click**
5	**<user type>** (**User Type:** button)	**single-click**
6	**<originator>** (**Originator:** field)	**press Tab**
7	**<priority>** (**Priority:** field)	**press Tab**
8	**PGE...** button	**single-click**

Table 13.2-4. Create a New Production Request - Quick-Step Procedures (2 of 3)

Step	What to Enter or Select	Action to Take
9	**<PGE>** (from **PGE Selection** list)	**single-click**
10	**OK**	**single-click**
11	**PGE Parameters...** button (if applicable)	**single-click**
12	**<parameter>** (from **PGE Parameter Mappings** list) (if applicable)	**single-click**
13	**<override value>** (**Override Value** field) (if applicable)	**enter text**
14	**OK** button (if applicable)	**single-click**
15	**Metadata Checks…** button (if applicable)	**single-click**
16	**<input data type>** (from **InputDataType** list) (if applicable)	**single-click**
17	**<metadata field>** (from **MetaDataField-Operator-Value-Type** list) (if applicable)	**single-click**
18	**<value>** (**Value** field) (if applicable)	**enter text**
19	**OK** button (if applicable)	**single-click**
20	**Alternate Input Values…** button (if applicable)	**single-click**
21	**<alternate input>** (from **AlternateListName** list) (if applicable)	**single-click**
22	**<alternate input>** (from **Order-DataType-LogicalID-Timer** list) (if applicable)	**single-click**
23	**<up>** arrow or **<down>** arrow (as necessary to reorder alternate inputs) (if applicable)	**single-click**
24	**<hh:mm:ss>** (if applicable)	**enter text**
25	**OK** button (if applicable)	**single-click**
26	Either **UTC Time** button or **Orbit** button (as applicable)	**single-click**
27	**<MM/DD/YYYY hh:mm:ss>** (**Begin** fields) (if applicable)	**enter text, press Tab**
28	**<MM/DD/YYYY hh:mm:ss>** (**End** fields) (if applicable)	**enter text, press Tab**
29	**Multiple DPRs** toggle button (if applicable)	**single-click**
30	**<first orbit number>** (**From** field) (if applicable)	**enter text**
31	Enter **<last orbit number>** (**To** field) (if applicable)	**enter text**
32	**Yes** button (under **PGE Chain Head**) (if applicable)	**single-click**
33	**<Computer>** (**Computer** field) (if applicable)	**single-click**
34	**<number of DPRs>** (**Skip** field) (if applicable)	**enter number**
35	**<number of DPRs>** (**Keep** field) (if applicable)	**enter number**
36	**SkipFirst** button (if applicable)	**single-click**
37	**<comment>** (**Comment** field) (if applicable)	**enter text**
38	**File → Save As**	**single-click**

Table 13.2-4. Create a New Production Request - Quick-Step Procedures (3 of 3)

Step	What to Enter or Select	Action to Take
39	<**PR name>** (**Selection** field)	**enter text**
40	**Ok** button	**single-click**
41	**Ok** button	**single-click**

13.2.4 Edit/Modify a Production Request

Edits or modifications to a previously created production request result in a new production request. The new production request must be saved with a new name.

Table 13.2-5 presents (in a condensed format) the steps required to edit/modify a production request. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Request Editor** (refer to Section 13.2.2).
a. The **Production Request Editor** GUI is displayed.

2 **Single-click** on the **PR Edit** tab.
- The **PR Edit GUI** is displayed.

3 To display a list of Production Requests from which to select the PR to be opened execute the following menu path:

File → Open

- A list of Production Requests is displayed in the **File Selection** window.

4 Select (highlight) the PR to be edited/modified by **single-clicking** on the corresponding PR name in the list of PRs.

5 **Single-click** on the **OK** button.
- The PR information appears in the **PR Edit GUI**.

NOTE: Perform only those steps of the procedure that are applicable to the changes you want to make. You do not have to go through all of the fields in the PR to successfully modify it. However, you must save the modified PR to make the changes effective.

6 **Single-click** on either the **Collection Time** or **Insertion Time** button (as applicable) if data are to be processed on the basis of time (rather than orbit).
- Normally the **Collection Time** (time when the data were collected by the instrument on the satellite) is used for specifying what data are to be processed.

- The **Insertion Time** option is available primarily for ASTER processing to allow the generation of DPRs for all data contained on an ASTER tape received from the ASTER Ground Data System (GDS).
  - If the **Insertion Time** option is selected, the **Multiple DPRs** toggle button appears on the **PR Edit** GUI.

7 To change the type of production request select the desired **PR Type** from the option button by **single-clicking** and **holding**, **moving** the mouse cursor to the desired selection (highlighting it), then **releasing** the mouse button.

8 To change the user type select the desired **User Type** from the option button by **single-clicking** and **holding**, **moving** the mouse cursor to the desired selection (highlighting it), then **releasing** the mouse button.

9 To change the originator in the **Originator** field either enter the actual name of the originator or enter:

<user name>

10 To change the **Production Request Editor Priority** in the **Priority:** field enter:

<priority>

11 If changing the PGE, **single-click** on the **PGE...** button.

- The **PGE** GUI is displayed.

12 If changing the PGE, select the desired PGE by **single-clicking** on the PGE.

13 If changing the PGE, **single-click** the **Ok** button.

14 To change PGE parameters first **single-click** on the **PGE Parameters...** button.

- The **PGE Parameters** GUI displays.

15 When changing PGE parameters, select a parameter to be modified by **single-clicking** on the **Parameter Name** row.

- The **parameter** row is highlighted.

16 When changing PGE parameters, in the **Override Value** field enter:

<override value>

- Some PGEs may NOT have modifiable parameters.

17 When changing PGE parameters, **single-click** on the **Apply** button at the bottom of the **PGE Parameter Mappings** window.

18 When changing PGE parameters, **single-click** on the **Ok** button to approve the changes.

- The **Production Request Editor** GUI is displayed.

19 If the PGE is subject to a metadata-based production rule and the value(s) to be checked need(s) to be changed, **single-click** on the **Metadata Checks…** button.

20 If it is necessary to change any value(s) for metadata checks, select an input data type with a value to be changed by **single-clicking** on the corresponding row in the **InputDataType** window.

21 If it is necessary to change any value(s) for metadata checks, select (highlight) a metadata field with a comparison value to be changed by **single-clicking** on the corresponding row in the **MetaDataField-Operator-Value-Type** window.

22 If it is necessary to change any value(s) for metadata checks, in the **Value** field enter:

<value>

23 If it is necessary to change any value(s) for metadata checks, **single-click** on the appropriate button from the following selections:

- **OK** - to approve the new value and dismiss the **MetadataChecks** GUI.
- **Apply** - to approve the new value without dismissing the **MetadataChecks** GUI.
- **Cancel** - to retum to the **Production Request** - **PR Edit** GUI without saving the new value.

24 If the PGE is subject to the **Alternate Inputs Production Rule** and the timer settings or the order of alternate inputs need to be changed, **single-click** on the **Alternate Input Values…** button.

25 If it is necessary to change timer settings or the order of alternate inputs, first select (highlight) an alternate input to be changed by **single-clicking** on the corresponding row in the **AlternateListName** window.

26 If it is necessary to change timer settings or the order of alternate inputs, select (highlight) an alternate input with timer settings or the order of alternate inputs to be changed by **single-clicking** on the corresponding row in the **Order-DataType-LogicalID-Timer** window.

27 If it is necessary to change the order of alternate inputs, **single-click** on the up/down arrow buttons adjacent to the **Order-DataType-LogicalID-Timer** window as necessary until the highlighted alternate input has the proper order listed in the **Order** column of the window.

28 If the timer setting for an alternate input is to be modified, verify that the alternate input with the timer setting to be changed has been highlighted then in the **Timer** fields enter:

<hh:mm:ss>

29 If it is necessary to change timer settings or the order of alternate inputs, **single-click** on the appropriate button from the following selections:

- **OK** - to approve the new alternate input setting(s) and dismiss the **AlternateInputValues** GUI.
- **Apply** - to approve the new alternate input setting(s) without dismissing the **AlternateInputValues** GUI.
- **Cancel** - to return to the **Production Request** - **PR Edit** GUI without saving the new alternate input setting(s).

30 **Single-click** on either the **UTC Time** (Coordinated Universal Time) button or the **Orbit** button, depending on whether data to be processed is specified by time or orbit.

31 If data are to be processed on the basis of time and the data start time is to be modified, enter the desired data start date and time in the **Begin** fields in the following format:

<MM/DD/YYYY hh:mm:ss>

32 If data are to be processed on the basis of time and the data end time is to be modified, enter the desired data end date and time in the **End** fields in the following format:

<MM/DD/YYYY hh:mm:ss>

33 If the Multiple DPRs for Insertion Time Production Rule applies, ensure that the **Multiple DPRs** toggle button is depressed.

- If necessary, **single-click** on the **Multiple DPRs** toggle button.

34 If the Orbital Processing Production Rule applies and the first orbit of data is to be modified, in the **From** field enter:

<first orbit number>

35 If the Orbital Processing Production Rule applies and the last orbit of data is to be modified, in the **To** field enter:

<last orbit number>

36 **Single-click** on the appropriate button from the following selections under **PGE Chain Head**:

- **Yes** - to designate the DPRs resulting from the PR as chain heads.
- **No** - to indicate that the DPRs resulting from the PR are not chain heads.

37 If the PGE specified in the PR is at the head of a chain and should be run on a particular virtual computer, **single-click** and **hold** the button adjacent to the **Computer** field to display a menu of available virtual computers, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

38 If Intermittent Activation applies and the number of DPRs to skip is to be modified, in the **Skip** field enter:

<number of DPRs>

39 If Intermittent Activation applies and the number of DPRs to keep is to be modified, in the **Keep** field enter:

<number of DPRs>

40 If Intermittent Activation applies and the first DPR is to be skipped, verify that the **SkipFirst** button has been activated (**single-click** on the button if necessary).

41 If applicable, in the **Comments** field enter:

<comments>

42 To save the modified production request execute the following menu path:

File → Save As

- **File Selection** Window appears.

43 In the **Selection** field enter:

<PR name>

- Production Request is named.
- Name must be changed.

44 **Single-click** on the **Ok** button.

- Eventually a **Production Request Explosion into DPRs** dialogue box is displayed.

45 **Single-click** on the **OK** button to dismiss the **Production Request Explosion into DPRs** dialogue box.

- The dialogue box is dismissed.

Table 13.2-5. Edit/Modify a Production Request - Quick-Step Procedures (1 of 3)

Step	What to Enter or Select	Action to Take
1	Launch **Production Request Editor**	Use procedure in Section 13.2.2
2	**PR Edit** tab	**single-click**
3	**File → Open**	**single-click**

Table 13.2-5. Edit/Modify a Production Request - Quick-Step Procedures (2 of 3)

Step	What to Enter or Select	Action to Take
4	**<PR name>** (from **Production Requests:** list)	**single-click**
5	**OK** button	**single-click**

Step	What to Enter or Select	Action to Take
6	Either **Collection Time** button or **Insertion Time** button (as applicable)	**single-click**
7	**<PR type>** (**PR Type:** button) (if applicable)	**single-click**
8	**<user type>** (**User Type:** button) (if applicable)	**single-click**
9	**<originator>** (**Originator:** field) (if applicable)	**enter text**
10	**<priority>** (**Priority:** field) (if applicable)	**enter number**
11	**PGE...** button (if applicable)	**single-click**
12	**<PGE>** (from **PGE Selection** list) (if applicable)	**single-click**
13	**OK** button (if applicable)	**single-click**
14	**PGE Parameters...** button (if applicable)	**single-click**
15	**<parameter>** (from **PGE Parameter Mappings** list) (if applicable)	**single-click**
16	**<override value>** (**Override Value** field) (if applicable)	**enter text**
17	**OK** button (if applicable)	**single-click**
18	**Metadata Checks…** button (if applicable)	**single-click**
19	**<input data type>** (from **InputDataType** list) (if applicable)	**single-click**
20	**<metadata field>** (from **MetaDataField-Operator-Value-Type** list) (if applicable)	**single-click**
21	**<value>** (**Value** field) (if applicable)	**enter text**
22	**OK** button (if applicable)	**single-click**
23	**Alternate Input Values…** button (if applicable)	**single-click**
24	**<alternate input>** (from **AlternateListName** list) (if applicable)	**single-click**
25	**<alternate input>** (from **Order-DataType-LogicalID-Timer** list) (if applicable)	**single-click**
26	**<up>** arrow or **<down>** arrow (as necessary to reorder alternate inputs) (if applicable)	**single-click**
27	**<hh:mm:ss>** (**Timer** fields) (if applicable)	**enter text**
28	**OK** button (if applicable)	**single-click**
29	Either **UTC Time** button or **Orbit** button (as applicable)	**single-click**
30	**<MM/DD/YYYY hh:mm:ss>** (**Begin** fields) (if applicable)	**enter text, press Tab**
31	**<MM/DD/YYYY hh:mm:ss>** (**End** fields) (if applicable)	**enter text, press Tab**
32	**Multiple DPRs** toggle button (if applicable)	**single-click**
33	**<first orbit number>** (**From** field) (if applicable)	**enter number**
34	**<last orbit number>** (**To** field) (if applicable)	**enter number**

Table 13.2-5. Edit/Modify a Production Request - Quick-Step Procedures (3 of 3)

Step	What to Enter or Select	Action to Take
35	**Yes** button (under **PGE Chain Head**:) (if applicable)	**single-click**
36	**<Computer>** (from **Computer** field) (if applicable)	**single-click**
37	**<number of DPRs>** (**Skip** field) (if applicable)	**enter number**
38	**<number of DPRs>** (**Keep** field) (if applicable)	**enter number**
39	**SkipFirst** button (if applicable)	**single-click**
40	**<comment>** (**Comment** field) (if applicable)	**enter text**
41	**File** → **Save As**	**single-click**
42	**<PR name>** (**Selection** field)	**enter text**
43	**Ok** button	**single-click**
44	**Ok** button	**single-click**

13.2.5 Delete a Production Request

Production Requests can be deleted if necessary. Table 13.2-6 presents (in a condensed format) the steps required to delete Production Requests. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Request Editor** (refer to Section 13.2.2).

- The **Production Request Editor** GUI is displayed.

2 **Single-click** on the **PR List** tab.

- The **PR List** GUI is presented.
- A list of Production Requests is displayed.

3 If filtering of the list of Production Requests is desired, **single-click** and **hold** the **PR Type** option button to display a menu of types of Production Requests, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

- Options are: **All** [default selection], **Routine**, **OnDemand**, and **Reprocessing**.
- A list of Production Requests of the specified type is displayed.

4 **Single-click** on the Production Request to be deleted.

- The Production Request to be deleted is highlighted.

5 Execute the following menu path:

Edit→Delete

- A dialogue box is displayed requesting confirmation of the decision to delete the Production Request.

6 **Single-click** on the **OK** button to delete the Production Request.

- If there are no dependencies among Production Requests, a confirmation dialogue box is displayed.
- If there are dependencies among Production Requests, a "List Of Orphan DPRs" dialogue box is displayed.

7 **Single-click** on the appropriate button from the following selections:
- **OK** - to confirm deletion of the Production Request(s) and dismiss the dialogue box.
  - A "deletion completed" dialogue box is displayed.
  - The Production Request(s) is/are deleted.
- **Cancel** - to preserve the Production Request(s) and dismiss the dialogue box.
  - The dialogue box is dismissed.
  - The Production Request(s) is/are not deleted.

8 **Single-click** on **OK** to dismiss the "deletion completed" dialogue box.
- The "deletion completed" dialogue box is dismissed.

9 To start the process of exiting from the **Production Request Editor** GUI execute the following menu path:

File → Exit

- A **Do you really want to exit?** dialogue box is displayed.

10 **Single-click** on the appropriate button from the following selections:
- **OK** - to exit from the Production Request Editor GUI.
  - The **Production Request Editor** GUI is dismissed.
- **Cancel** - to return to the **Production Request Editor** GUI.

Table 13.2-6. Delete a Production Request - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Production Request Editor**	Use procedure in Section 13.2.2
2	**PR List** tab	**single-click**
3	**<PR name>** (from **Production Requests** list)	**single-click**
4	**Edit→Delete**	**single-click**
5	**OK** button	**single-click**
6	**OK** button	**single-click**
7	**OK** button	**single-click**

13.2.6 Display Data Processing Request Information

The process of displaying Data Processing Request information begins with the Production Planner launching the Production Request Editor. The Production Planner can review DPRs

associated with a specific PR. The Production Planner can review such DPR values as input granule(s), output granule(s), predicted and actual start times, data start time, status, and priority.

Table 13.2-7 presents (in a condensed format) the steps required to display and review DPRs. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Request Editor** (refer to Section 13.2.2).
- The **Production Request Editor** GUI is displayed.

2 **Single-click** on the **DPR List** tab.
- The **DPR List** GUI is presented.

3 If filtering of the list of Production Requests is desired, **single-click** and **hold** the **PR Type** option button to display a menu of types of Production Requests, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.
- Options are: **ALL** [default selection], **Routine**, **OnDemand**, and **Reprocessing**.

4 **Single-click** on the **Production Request** pull-down arrow.
- A list of Processing Requests is displayed.

5 **Single-click** on the Production Request for which a DPR listing is desired.
- The Production Request is entered into the **Production Request** field.

6 **Single-click** on the **Filter** button.
- The list of DPRs associated with the selected Production Request is displayed.

7 **Single-click** the **DPR View** tab.
- The **DPR View** GUI is displayed.

8 Execute the following menu path:

File → Open

- The **File Selection** GUI is displayed.

9 **Single-click** on the desired DPR from list.
- DPR appears in the **Selection** field.

10 **Single-click** on the **OK** button.
- The **DPR** information is displayed on the **DPR View** GUI.
- The **DPR ID** is a modification of the original PGE name.

11 Review **Data Processing Request Identification** information displayed.
- **DPR Name.**
- **PR Name.**

- **Origination Date.**
- **Originator.**
- **PGE ID.**
- **Data Start Time.**
- **Data Stop Time.**

12 **Single-click** on the **PGE Parameters...** button.
- The **PGE Parameter Mappings** GUI displays.

13 Review the **PGE Parameter Mappings** information displayed.
- PGE parameter data are displayed in a table that has the following columns:
  - **Parameter Name.**
  - **Logical Id.**
  - **Default Value.**
  - **Override Value.**
  - **Description.**

14 **Single-click** on the **Ok** button.
- The **PGE Parameter Mappings** GUI is dismissed.
- The **DPR View** GUI is displayed.

15 **Single-click** on the **PGE File Mappings...** button.
- The **UR File Mappings** GUI is displayed.

16 Review the **Universal Reference (UR) File Mappings** information displayed.
- **Input Data.**
  - **Logical Id.**
  - **Granule Id.**
  - **Start Time(UTC)** (date and time).
  - **Stop Time (UTC)** (date and time).
  - **Availability** (date and time).
  - **UR** (granule universal reference).
- **Output Data** (Displays the same data as shown for Input Data).

17 **Single-click** on the **Ok** button.
- The **UR File Mappings** GUI is dismissed.
- The **DPR View** GUI is displayed.

18 Review the **DPR Status** information displayed.
- **Predicted Start Time** (date and time).
- **Actual Start Time** (date and time).
- **Priority.**

- **Status.**
- **Predicted** and **Actual Start Times** and **Status** are not displayed if the Production Request has not been scheduled.

19 Repeat steps 2 through 18 to review multiple DPRs associated with multiple PRs.

20 To start the process of exiting from the **Production Request Editor** GUI execute the following menu path:

File → Exit

- A **Do you really want to exit?** dialogue box is displayed.

21 **Single-click** on the appropriate button from the following selections:
- **OK** - to exit from the **Production Request Editor** GUI.
  - The **Production Request Editor** GUI is dismissed.
- **Cancel** - to return to the **Production Request Editor** GUI.

Table 13.2-7. Display Data Processing Request Information - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch **Production Request Editor**	Use procedure in Section 13.2.2
2	**DPR List** tab	**single-click**
3	**<PR name>** (from **Production Request** option list)	**single-click**
4	**Filter** button	**single-click**
5	**<DPR ID>** (from **Data Processing Requests** list)	**single-click**
6	**DPR View** tab	**single-click**
7	**File → Open**	**single-click**
8	<**DPR ID>** (from **Data Processing Requests** list)	**single-click**
9	**Ok** button	**single-click**
10	Review DPR information	**read text**
11	**PGE Parameters...** button	**single-click**
12	Review PGE parameters	**read text**
13	**OK** button	**single-click**
14	**PGE File Mappings...** button	**single-click**
15	Review input and output granule information	**read text**
16	**OK** button	**single-click**

Table 13.2-7. Display Data Processing Request Information - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take

17	Repeat Steps 2 through 16 to review additional DPRs	

13.2.7 Delete a Data Processing Request

DPRs can be deleted manually if necessary. Table 13.2-8 presents (in a condensed format) the steps required to delete DPRs. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Request Editor** (refer to Section 13.2.2).

- The **Production Request Editor** GUI is displayed.

2 **Single-click** on the **DPR List** tab.

- The **DPR List** GUI is presented.

3 If filtering of the list of Production Requests is desired, **single-click** and **hold** the **PR Type** option button to display a menu of types of Production Requests, **move** the mouse cursor to the desired selection (highlighting it), then **release** the mouse button.

- Options are: **ALL** [default selection], **Routine**, **OnDemand**, and **Reprocessing**.

4 **Single-click** on the **Production Request** pull-down arrow.

- A list of Production Requests is displayed.

5 **Single-click** on the Production Request for which a DPR listing is desired.

- The Production Request is entered into the **Production Request** field.

6 **Single-click** on the **Filter** button.

- A list of the DPRs associated with the Production Request is displayed.

7 **Single-click** on the DPR to be deleted.

- The DPR to be deleted is highlighted.

8 Execute the following menu path:

Edit→Delete

- A DPR deletion confirmation dialogue box is displayed requesting confirmation of the decision to delete the DPR.

9 Click on the appropriate button from the following selections:

- **OK -** to confirm deletion of the DPR and dismiss the dialogue box.
  - A deletion dialogue box is displayed.
  - The DPR is deleted.
  - If the DPR was the only DPR in the Production Request, the PR is deleted too.
- **Cancel** - to preserve the DPR and dismiss the dialogue box.
  - The deletion confirmation dialogue box is dismissed.
  - The DPR is not deleted.

10 Select **OK** to dismiss the dialogue box.

- The dialogue box is dismissed.

11 To start the process of exiting from the **Production Request Editor** GUI execute the following menu path:

File → Exit

- A **Do you really want to exit?** dialogue box is displayed.

12 **Single-click** on the appropriate button from the following selections:

- **OK** - to exit from the **Production Request Editor** GUI.
  - The **Production Request Editor** GUI is dismissed.
- **Cancel** - to return to the **Production Request Editor** GUI.

Table 13.2-8. Delete a Data Processing Request - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Production Request Editor**	Use procedure in Section 13.2.2
2	**DPR List** tab	**single-click**
3	**<PR name>** (from **Production Request** option list)	**single-click**
4	**Filter** button	**single-click**
5	**<DPR ID>** (DPR to be deleted) (from **Data Processing Requests** list)	**single-click**
6	**Edit → Delete**	**single-click**
7	**OK** button	**single-click**
8	**OK** button	**single-click**

13.2.8 Re-Generate Granules Affected by Loss of Files from the Archive

The entry point for this procedure is the “Data Recovery Process” in Chapter 17, including (especially) the “Data Recovery Procedure for Known Files” and “SDSRV Retrieval of Granule Production History Metadata” sections.

The role of this procedure is to initiate production of replacements for granules previously generated within this DAAC but now lost due to failure in the ECS Archive. In order to achieve this, Production Requests (PRs) for the generation of the replacement granules must be created, entered into a Production Plan, and activated.

The PRs are created using the Production Request Editor (PRE). However, first the necessary parameters of the PRs must be retrieved from the Production History file (PH) of the lost granule. The PH file is itself acquired by use of the QA Monitor tool and, though the PH UR is supplied in the input to this process, this can be achieved only by first using the QA Monitor tool to search the SDSRV database for granules matching the lost granule. Hence, this process commences with use in the QA Monitor GUI of the attributes of each lost granule (shortname, versionID etc.) supplied in the input to this procedure. Refer to Chapter 17 for further information on the wider context of this procedure.

The input to this procedure is the "Granules for PDPS Re-Generation" list. This is a list of granules and associated metadata generated by the procedure "SDSRV Retrieval of Granule Production History Metadata" (refer to Chapter 17). While the list can be obtained electronically, its use in this procedure is line-by-line. However, if available electronically, entries from it can be 'cut and pasted' into the input fields of the QA monitor GUI to avoid typing errors.

The outputs of the procedure are as follows:

- Granule re-generation Production Requests entered into a production plan.
- The "PDPS Residual Granules List" which is a list of Granules which this PDPS can not re-generate or which it has been decided do not justify re-generation. This list is returned to the process in Chapter 17.

Note that the following assumptions apply to the application of this procedure:

- The Science Data Server (SDSRV) will provide a list of granules to be regenerated ("Granules for PDPS Re-Generation"). This list will contain information about the granules to be regenerated and a Universal Reference (UR) for the associated Production History tar file.
- When reproducing lost granules, all outputs of the PGE, not just those equivalent to the lost granule(s), will be produced and archived.
- It cannot be guaranteed that the PGE re-run will use the same inputs as were used during its original execution due to the variability of: Optional/Alternate inputs, Metadata Checks, Metadata Query and other Production Rules.
- It is possible that at the time of the original run of PGE, certain optional/alternate inputs were not available, which became available later. During the re-run of the PGE use of those additional or other optional inputs cannot be avoided. However, it can be assumed that an equivalent or better product than the original will be produced as a result.
- PDPS maintains a minimal amount of granule level versioning. By design, only the latest version of the granule will be used. If the PGE which is to be re-run uses inputs which have more than one granule level version, PDPS will use only the latest version of those inputs. However, if references to those granules have been deleted

from the PDPS database (a delete script, which runs periodically, cleans up unused database entries), then PDPS will choose the first one returned from SDSRV. SDSRV does not guarantee any sort of ordering in this case but PDPS will select the latest granule from those returned (Note: depends on fix to NCR ECSed16326).

- At Production Request time, the default values for metadata checks can be overridden. The new values used are stored in the PDPS database but not in the Production History. If, at the time of re-run of the PGE, the references to that PGE have been deleted from PDPS database, the default metadata checks will be used. It is possible, therefore, that these default values will cause this DPR not to be run in this instance; e.g. if the metadata checks had been changed in the original run to be less restrictive. If these types of changes to metadata checks are required in order to get DPRs to run, then it is assumed that these defaults are saved as part of the PGE profile.
- In a manner that is similar to Metadata Checks, a Metadata Query specifies a query to be used to determine the input granules to be used for a DPR. For reasons of production timing or updated QA values, a product reproduced at a later date could have different granules used as input. Again, it can be assumed that in this case a better product will result.
- Other production rules (e.g., spatial query) could make it impossible to reproduce identical granules.
- If a PGE (PGE name, version and profile) has to support lost granules regeneration, then that PGE should not be deleted from the PDPS database. This means, in the SSIT Operational Metadata GUI, the delete flag for that PGE should not be checked.

Table 13.2-9 presents (in a condensed format) the steps required to re-generate granules affected by loss of files from the archive. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Determine whether all the granules in the input list “Granules for PDPS Re-Generation” should be reproduced.

- It is possible that some granules need not be reproduced, e.g. because a newer version of that product is available.
- Granules that need not be reproduced should be added to the “PDPS Residual Granules” list. Also, at any time during this process, if it is determined that some granules cannot be regenerated or need not be regenerated, then those granules should be included in the "PDPS Residual Granules” list.

2 Retrieve (using the QA Monitor GUI) the Production History tar file from the archive for each granule in the “Granules for PDPS Re-Generation” list that needs to be reproduced.

- Procedures for using the QA Monitor GUI are presented in Chapter 15.
- Use the lost granule’s datatype, and “begin date” and “end date” values that encompass its RangeBeginningDateTime and RangeEndingDateTime. Note that the GUI interprets the dates in UTC format.

- For each granule that meets the query conditions and is displayed on the QA Monitor GUI, the granule's UR, its Production History tar file's UR, and the name of the Production History tar file are shown. For only one of the granules will the URs (both the granule UR and the Production History UR) match the URs for this granule in the input list.
  - If the Query failed or did not return any hit that matched, add the granule to "PDPS Residual Granules" list.
- Retrieve the matching granule.
  - The Production History tar file will be acquired to a directory that is configurable (the name of the configuration parameter is DpPrQA_DATA_DIR, and the default value for this parameter is $ECS_HOME/<MODE>/CUSTOM/data/DPS).
  - The name of the tar file is the one that appears under the column **Production History File Name** on the QA Monitor GUI.
- Note that if more than one granule in the input list maps to the same Production History tar file, then the Production History tar file need not be retrieved multiple times.
- The Production History tar file contains the Process Control File (PCF) which has all the information needed to re-run the PGE. The following particulars have to be extracted from the PCF:
  - PGE Name.
  - PGE Version.
  - PGE Profile ID.
  - DPR Start time.
  - DPR Stop time.
  - PGE runtime parameters and their associated values.
- Identification of information in the PCF:
  - The PGE Name, PGE Version, and the PGE Profile appear in the System Runtime Parameters section of the PCF. They are concatenated (with a # sign to separate them) and appear in the place reserved for "Software ID".
  - DPR Start time appears in the User Defined Parameter Section of the PCF under the logical ID 10258.
  - DPR Stop time also appears in the User Defined Parameter Section of the PCF under logical ID 10259.
  - All other logical IDs in the User Defined Parameter Section of the PCF form the run time parameters and their associated values. Note the logical ID and its corresponding values.
  - An automated script could be written to extract the values from the PCF.

3 If the PGE name, version and profile that is extracted from the PCF does not appear as an Existing/New PGE, then add the granule that is to be regenerated to the "PDPS Residual Granules" list.

4 From the SSIT host, launch the **SSIT Manager** GUI and invoke the **PDPS Operational Metadata** GUI.

- Procedures for using SSI&T tools are presented in Chapter 11.

5 If the PGE is not registered, register the PGE using the **PDPS Science Update Metadata Update** from the **SSIT Manager** GUI.

- The PGE must be registered before a production request can be entered.

6 If it is decided not to re-register the PGE, add the granule that is to be regenerated to the "PDPS Residual Granules" list.

7 From the Planning Workstation, launch the **Production Request Editor** GUI as described in Section 13.2.2.

8 Enter a Production Request (as described in Section 13.2.3) for the relevant PGE/version/profile ID.

- Use **Reprocessing** for the **Processing Type**.
- Use the **DPR Start** and **Stop Time** listed in the Production History for the **Begin** and **End** times.
- View the default PGE runtime parameters and compare them against the runtime parameters obtained from the Production History tar file.
  - Modify the runtime parameter values to match exactly what was used in the original run.
- If granules that need to be regenerated are produced by PGEs that are chained, then the production requests must be entered in that order.
  - For instance, if granules A and B are to regenerated, and PGEs P1 & P2 produce them and if P1 & P2 are chained (P2 takes P1's outputs as its inputs) then the production request for P1 must be entered before entering one for P2.

9 Launch the **Planning Workbench** (refer to Section 13.3.1).

- The **Planning Workbench** is displayed.

10 Create and activate a production plan that includes the newly created production request(s) as described in Section 13.3.2.

11 Return the output ("PDPS Residual Granules") list to the "Data Recovery Procedure for Known Files" procedure in Chapter 17 for further processing.

- Those granules which were not re-generated by this process are listed in the output ("PDPS Residual Granules") list.

Table 13.2-9. Re-Generate Granules Affected by Loss of Files from the Archive - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Identify granules to be reproduced	**read text**
2	Add not-to-be-reproduced granules to the "PDPS Residual Granules "List	**enter text**
3	Retrieve Production History tar file for each element to be reproduced using the **QA Monitor GUI**	Use QA Monitor procedures (Chapter 15)
4	Obtain URs from the QA Monitor GUI	Use QA Monitor procedures (Chapter 15)
5	Extract PGE parameters from the Process Control File	Use QA Monitor procedures (Chapter 15)
6	Launch the **PDPS Operational Metadata GUI** from the **SSIT Manager GUI** if the applicable PGE is not registered	Use SSIT procedure for launching the PDPS Operational Metadata GUI (Chapter 11)
7	Register the PGE	Use SSIT procedure for registering PGEs (Chapter 11)
8	Launch the **Production Request Editor GUI**	Use procedure in Section 13.2.2
9	Enter the **Production Request** for **Reprocessing**	Use procedure in Section 13.2.3
10	Launch the **Planning Workbench**	Use procedure in Section 13.3.1
11	Create and activate a plan for the newly created **Production Request**	Use procedure in Section 13.3.2
12	Return the output ("PDPS Residual Granules") list to the "Data Recovery Procedure for Known Files" procedure (Chapter 17)	

13.3 Creating/Modifying/Deleting Production Strategies

A Production Strategy is a high-level set of priorities by which the Production Planner defines the rules for priorities and preferences in the processing of DPRs. The Production Planner uses the **Production Strategies** GUI to prepare Production Strategies.

Production Strategies work on two levels. First, the Production Planner can update lists of DPR attributes so that each value an attribute can have is tied to a particular priority. For example, the DPR attribute "PR Type" has three values that may have their default priority of (e.g., 2) changed as follows (on a scale of 1 to 10):

- Routine 6
- On-Demand 10
- Reprocessing 4

Next, the Production Planner can change the weight that each attribute's priority is given. For example, weights (from 1 to 100) might be assigned to the DPR attributes as follows:

- PR Type 45
- User Type 15
- PGE Type 20

A weight is also given to the priority specified when the Production Planner created the Production Request as shown in the following example:

- Production Request Editor 20

The total weights assigned to PR Type, User Type, PGE Type and Production Request Editor [Priority] must equal 100.

The values included in the selected strategy are read by the Planning Workbench when prioritizing the DPRs in a production plan.

Finally, there is a Late Start Delta that can be used to increase the priority of all jobs that have been waiting in the Production Queue for more than a day.

Table 13.3-1 provides an Activity Checklist for activities related to the creation of Production Strategies.

Table 13.3-1. Production Strategies - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Planner	Launch the Production Strategies GUI	(P) 13.3.1	
2	Production Planner	Define or Modify a Production Strategy	(P) 13.3.2	
3	Production Planner	Review the Current Active Strategy	(P) 13.3.3	
4	Production Planner	Delete a Production Strategy	(P) 13.3.4	

13.3.1 Launch the Production Strategies GUI

The Production Strategies GUI is invoked as described in the procedure that follows. Table 13.3-2 presents (in a condensed format) the steps required to launch the Production Strategies GUI. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "utilities" is the directory containing the Planning Subsystem start-up scripts.

3 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

- Application home environment is entered
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.

4 Start the Production Strategies GUI by entering:

EcPlProdStratStart <MODE>

- The **Production Strategies** GUI is launched.

Table 13.3-2. Launch the Production Strategies GUI - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	Set the environment variables if necessary	**enter text, press Enter**
4	**EcPlProdStratStart <MODE>**	**enter text, press Enter**

13.3.2 Define or Modify a Production Strategy

The Production Planner uses the Production Strategies GUI to develop Production Strategies. Table 13.3-3 presents (in a condensed format) the steps required to define or modify a production strategy. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Strategies** GUI (refer to Section 13.3.1).

- The **Production Strategies** GUI is displayed.

2 If defining a new production strategy, execute the following menu path:

File → New

- The fields of the **Production Strategies** GUI are reset.

3 If modifying an existing production strategy, first **single-click** the option button associated with the **Production Strategies** field, then highlight (in the option menu) the name of the production strategy to be modified.

- Data pertaining to the selected production strategy are displayed in the applicable fields of the **Production Strategies** GUI.
- Alternatively, it is possible to execute the following menu path: **File → Open**, select the desired production strategy from the list on the **Open** window, and **single-click** on the **Ok** button to open the production strategy.

4 If changing the default priority for PR Type, in the **Default** field below the **PR Type** button enter:

<default value>

- The range for the default is from 1 to 10.

5 If changing the default priority for User Type, in the **Default** field below the **User Type** button enter:

<default value>

6 If changing the default priority for PGE Type, in the **Default** field below the **PGE Type** button enter:

<default value>

7 If defining or modifying a priority for a type of production request, first **single-click** on the **PR Type** button.

- The different types of production requests are displayed in the **Type List** field at the bottom left of the GUI.
- Options are: **Routine**, **OnDemand**, and **Reprocessing**.

8 If defining a priority for a type of production request **not** currently listed in the **PR Type Value-Priority** list, **single-click** on that PR type in the **Type List** field.

- The PR type is highlighted.
- It is possible to highlight multiple PR types (by **single-clicking** on each one in turn) if they are all going to be assigned the same priority.

9 If redefining or deleting a priority for a type of production request **already** listed in the **PR Type Value-Priority** list, **single-click** on that PR type in the **Value-Priority** list.

- The PR type is highlighted.
- It is possible to highlight multiple PR types (by **single-clicking** on each one in turn while holding down either the **Shift** key or the **Ctrl** key) if the same action is going to be taken with respect to all of them.

10 If defining or modifying (not deleting) a priority, click on the up/down arrow buttons to the right of the **Priority** field until the desired priority value is displayed in the **Priority** field.

- Alternatively, in the **Priority** field enter:

  <priority value>

- The acceptable range for the priority is from 1 to 10.

11 **Single-click** on the appropriate button from the following selections:

- **Add** - to approve a priority for an additional PR type and display the selected PR type and priority in the **PR Type Value-Priority** list at the left center of the GUI.
- **Modify** - to approve a revised priority for the selected PR type and display the PR type and modified priority in the **PR Type Value-Priority** list.
- **Delete** - to delete the priority for the selected PR type and remove the PR type and priority from the **PR Type Value-Priority** list.

12 Repeat Steps 7 through 11 as necessary until all PR Type priorities (as shown in the **PR Type Value-Priority** field) are correct.

13 If defining or modifying a priority for a type of user, first **single-click** on the **User Type** button.

- The different types of users are displayed in the **Type List** field at the bottom left of the GUI.
- Options are: **Operator**, **DAAC Manager**, **Scientist**, and **Researcher**.

14 If defining a priority for a type of user **not** currently listed in the **User Type Value-Priority** list, **single-click** on that user type in the **Type List** field.

- The user type is highlighted.
- It is possible to highlight multiple user types (by **single-clicking** on each one in turn).

15 If redefining or deleting a priority for a user type **already** listed in the **User Type Value-Priority** list, **single-click** on that user type in the **Value-Priority** list.

- The user type is highlighted.
- It is possible to highlight multiple user types (by **single-clicking** on each one in turn while holding down either the **Shift** key or the **Ctrl** key).

16 If defining or modifying (not deleting) a priority, click on the up/down arrow buttons to the right of the **Priority** field until the desired priority value is displayed in the **Priority** field.

- Alternatively, in the **Priority** field enter:

  <priority value>

- The acceptable range for the priority is from 1 to 10.

17 **Single-click** on the appropriate button from the following selections:

- **Add** - to approve a priority for an additional user type and display the selected user type and priority in the **User Type Value-Priority** list near the center of the GUI.
- **Modify** - to approve a revised priority for the selected user type and display the user type and modified priority in the **User Type Value-Priority** list.
- **Delete** - to delete the priority for the selected user type and remove the user type and priority from the **User Type Value-Priority** list.

18 Repeat Steps 13 through 17 as necessary until all user type priorities (as shown in the **User Type Value-Priority** field) are correct.

19 If defining a priority for a type of PGE, first **single-click** on the **PGE Type** button.

- The different types of PGEs are displayed in the **Type List** field at the bottom left of the GUI.
- All PGEs currently registered in the PDPS database (for the mode in which the **Production Strategies** GUI was brought up) are listed.

20 If defining a priority for a type of PGE **not** currently listed in the **PGE Type Value-Priority** list, **single-click** on that PGE type in the **Type List** field.

- The PGE type is highlighted.
- It is possible to highlight multiple PGE types (by **single-clicking** on each one in turn).

21 If redefining or deleting a priority for a PGE type **already** listed in the **PGE Type Value-Priority** list, **single-click** on that PGE type in the **Value-Priority** list.

- The PGE type is highlighted.
- It is possible to highlight multiple PGE types (by **single-clicking** on each one in turn while holding down either the **Shift** key or the **Ctrl** key).

22 If defining or modifying (not deleting) a priority, click on the up/down arrow buttons to the right of the **Priority** field until the desired priority value is displayed in the **Priority** field.

- Alternatively, in the **Priority** field enter:

  <priority value>

- The acceptable range for the priority is from 1 to 10.

23 **Single-click** on the appropriate button from the following selections:

- **Add** - to approve a priority for an additional PGE type and display the selected PGE type and priority in the **PGE Type Value-Priority** list near the center of the GUI.
- **Modify** - to approve a revised priority for the selected PGE type and display the PGE type and modified priority in the **PGE Type Value-Priority** list.
- **Delete** - to delete the priority for the selected PGE type and remove the PGE type and priority from the **PGE Type Value-Priority** list.

24 Repeat Steps 19 through 23 as necessary until all PGE type priorities (as shown in the **PGE Type Value-Priority** field) are correct.

25 In the **Weight** field below the **PR Type** button enter:

<weight>

- The acceptable range for weights is from 1 to 100.
- The **Total Weight** field displays updated totals of all weighting factors as they are entered.
- When entering weights for the **PR Type**, **User Type**, **PGE Type**, and **Production Request Editor** factors, relative values can be entered without regard to whether the values in the four categories add up to 100. The **Normalize** button provides a means of eventually ensuring that the total of all four categories equals 100.
- The assigned weight in each category is multiplied by the priority for each type. To maintain a high priority (low number, such as one), assign a low weight; to ensure a low priority, assign a relatively high weight.

26 In the **Weight** field below the **User Type** button enter:

<weight>

27 In the **Weight** field below the **PGE Type** button enter:

<weight>

28 In the **Production Request Editor** field enter:

<weight>

- The priority to which the weight is applied is the priority assigned using the Production Request Editor when a production request is created.

29 **Single-click** on the **Normalize** button.

- The Planning Subsystem adjusts all weighting factors to produce a total weight of 100 (as displayed in the **Total Weight** field).

30 If it is necessary to change the priority of jobs that have been waiting in the Production Queue for more than a day, in the **Late Start Delta Priority** field enter:

<priority value>

- The range for the Late Start Delta Priority is from 1 to 100.

31 To start the process of saving the production strategy execute the following menu path:

File → Save As

- A **Save As** window similar to the **File Selection** window is displayed.

32 In the **Save As** field enter:

<strategy file name>

33 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept the file name in the **Save As** field.
  - The **Save As** window is dismissed.
  - The production strategy is saved with the specified file name.
- **Cancel** - to dismiss the. **Save As** window without saving the production strategy.

34 To start the process of modifying or creating another production strategy execute the following menu path:

File → New

- Return to Step 3 to modify an existing production strategy.

35 To start the process of exiting from the **Production Strategies** GUI execute the following menu path:

File → Exit

- A **Do you really want to exit?** dialogue box is displayed.

36 **Single-click** on the appropriate button from the following selections:

- **OK** - to exit from the **Production Strategies** GUI.
  - The **Production Strategies** GUI is dismissed.
- **Cancel** - to return to the **Production Strategies** GUI.

Table 13.3-3. Define or Modify a Production Strategy - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch **Production Strategies** GUI	Use procedure in Section 13.3.1
2	**File → New**	**single-click**

Table 13.3-3. Define or Modify a Production Strategy - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
3	**<default priority>** (for **PR Type**) (if applicable)	**enter text**
4	**<default priority>** (for **User Type**) (if applicable)	**enter text**
5	**<default priority>** (for **PGE Type**) (if applicable)	**enter text**
6	**PR Type** button.	**single-click**
7	**<PR type>** (from the **Type List** field)	**single-click**
8	**<priority value>** (**Priority** field)	**enter text** or **single-click** as necessary
9	**Add** button	**single-click**
10	Repeat Steps 7 through 9 for additional PR types if applicable	
11	**User Type** button	**single-click**
12	**<user type>** (**Type List** field)	**single-click**
13	**<priority value>** (**Priority** field)	**enter text** or **single-click** as necessary
14	**Add** button	**single-click**
15	Repeat Steps 12 through 14 for additional user types if applicable	
16	Select **PGE Type** button.	**single-click**
17	Select **<PGE type>** from the **Type List** field	**single-click**
18	Enter **<priority value>** in the **Priority** field	**enter text** or **single-click** as necessary
19	Select **Add**	**single-click**
20	Repeat Steps 17 through 19 for additional PGE types if applicable	
21	**<weight>** (**PR Type**)	**enter text**
22	**<weight>** (**User Type**)	**enter text**
23	**<weight>** (**PGE Type**)	**enter text**
24	**<weight>** (**Production Request Editor**)	**enter text**
25	**Normalize** button	**single-click**
26	**<priority value>** (for **Late Start Delta Priority**) (if applicable)	**enter text**
27	**File** → **Save As**	**single-click**
28	**<strategy file name>** (**Save As** field)	**enter text**
29	**Ok** button	**single-click**
30	**File** → **Exit** (when applicable)	**single-click**
31	**OK** button (when applicable)	**single-click**

13.3.3 Review the Current Active Strategy

The Production Planner uses the Production Strategies GUI to review the production strategy applied to the currently active production plan. Table 13.3-4 presents (in a condensed format) the steps required to review the current active strategy. If you are already familiar with the

procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Strategies** GUI (refer to Section 13.3.1).

- The **Production Strategies** GUI is displayed.

2 Execute the following menu path:

Options → activeStrategy

- The **Active Production Strategy** window is displayed.

3 Review the data displayed in the **Active Production Strategy** window:

- **PR Type.**
  - **Weight.**
  - **Default** [value].
  - [Individual PR types and values if any are listed.]
- **User Type.**
  - **Weight.**
  - **Default** [value].
  - [Individual user types and values if any are listed.]
- **PGE Type.**
  - **Weight.**
  - **Default** [value].
  - [Individual PGE types and values if any are listed.]
- **Production Request Editor Weight.**
- **Late Start Delta Priority.**

4 To exit from the **Active Production Strategy** window and return to the **Production Strategies** GUI **single-click** on the **Cancel** button.

- The **Active Production Strategy** window is dismissed.
- The **Production Strategies** GUI is displayed.

Table 13.3-4. Review the Current Active Strategy - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Production Strategies** GUI	Use procedure in Section 13.3.1
2	**Options → activeStrategy**	**single-click**
3	Observe the production strategy information	**read text**
4	**Cancel** button	**single-click**

13.3.4 Delete a Production Strategy

The Production Planner uses the Production Strategies GUI to delete production strategies that are no longer needed. Table 13.3-5 presents (in a condensed format) the steps required to delete a production strategy. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Production Strategies** GUI (refer to Section 13.3.1).

- The **Production Strategies** GUI is displayed.

2 **Single-click** the option button associated with the **Production Strategies** field, then highlight (in the option menu) the name of the production strategy to be deleted.

- Data pertaining to the selected production strategy are displayed in the applicable fields of the **Production Strategies** GUI.
- Alternatively, it is possible to execute the following menu path: **File** → **Open**, select the desired production strategy from the list on the **Open** window, and **single-click** on the **Ok** button to open the production strategy.

3 Execute the following menu path:

Edit → **Delete**

- A production strategy deletion confirmation dialogue box is displayed requesting confirmation of the decision to delete the production strategy.

4 Click on the appropriate button from the following selections:

- **OK** - to confirm deletion of the production strategy and dismiss the dialogue box.
  - The deletion confirmation dialogue box is dismissed.
  - The production strategy is deleted.
- **Cancel** - to preserve the production strategy and dismiss the dialogue box.
  - The deletion confirmation dialogue box is dismissed.
  - The production strategy is not deleted.

5 To start the process of exiting from the **Production Strategies** GUI execute the following menu path:

File → **Exit**

- A **Do you really want to exit?** dialogue box is displayed.

6 **Single-click** on the appropriate button from the following selections:

- **OK** - to exit from the **Production Strategies** GUI.
  - The **Production Strategies** GUI is dismissed.
- **Cancel** - to return to the **Production Strategies** GUI.

Table 13.3-5. Delete a Production Strategy - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Production Strategies** GUI	Use procedure in Section 13.3.1
2	**<stra0tegy name>** (from **Production Strategies** option list)	**single-click**
3	**Edit** → **Delete**	**single-click**
4	**OK** button	**single-click**
3	**File** → **Exit** (when applicable)	**single-click**
5	**OK** button	**single-click**

13.4 Creating/Deleting Production Plans

The planning process involves the Production Planner preparing monthly and weekly production plans as well as a daily production schedule from the most current weekly plan. Although production planning varies from DAAC to DAAC, the following guidelines are generally applicable:

- Monthly plans.
  - Developed for the coming month and one or two months in advance.
  - Produced, reviewed, updated, published and distributed approximately two weeks before the beginning of the month.
  - Plan for the coming month is used to establish a baseline against which production targets can be measured.
- Weekly plans.
  - Produced, reviewed, updated, published and distributed approximately five days before the beginning of the coming week.
  - Used to produce a baseline for comparison of planned vs. actual production results.
- Daily plan or schedule.
  - Produced each day for the next processing day.
  - Developed from the current weekly plan, adjusted to reflect the actual processing accomplished and the actual resources available at the time the daily schedule is generated.
  - The daily plan is the type of plan that is implemented through the **Planning Workbench** GUI.
  - If there is a very large processing volume, it may be advisable to divide the daily plan into multiple plans; e.g., one for each shift or one for each four-hour period.

During normal processing, when reasonably accurate predictions of the processing time for the PGEs are available, the processing schedule should result in a reasonably accurate prediction of when data products will be generated. However, during abnormal situations (e.g., equipment failure), what is actually accomplished could depart significantly from the plan. In such

situations, the Production Planner may choose to develop new plans to reflect current events. This process is known as "replanning."

Table 13.4-1 provides an Activity Checklist for activities related to the creation of Production Plans.

Table 13.4-1. Production Plans - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Planner	Launch the Planning Workbench and Planning Timeline GUIs	(P) 13.4.1	
2	Production Planner	Create a New Production Plan	(P) 13.4.2	
3	Production Planner	Delete a Production Plan	(P) 13.4.3	
4	Production Planner	Review a Plan Timeline	(P) 13.4.4	

13.4.1 Launch the Planning Workbench and Planning Timeline GUIs

The Planning Workbench and Planning Timeline GUIs are invoked from a UNIX command line prompt. Table 13.4-2 presents (in a condensed format) the steps required to launch the Planning Workbench and Planning Timeline GUIs. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "utilities" is the directory containing the Planning Subsystem start-up scripts.

3 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

- Application home environment is entered
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.

NOTE: The selection of a start-up script for launching the **Planning Workbench** GUI depends on the number of DPRs in the PDPS database. If the number is very high (~4000), the **EcPlSomeStart** script is used to start the underlying processes (Message Handler, System Name Server, and Resource Model). Then additional scripts are used to start the **Planning Workbench** GUI and the **Production Planning Timeline** GUI. If the number of DPRs in the PDPS database is not very high (less than about 4000), the **EcPlAllStart** script is used to start the underlying processes, **Planning Workbench** GUI and **Production Planning Timeline** GUI.

4 If the number of DPRs in the PDPS database is not large (less than about 4000), start the Planning Workbench-related applications by entering:

EcPlAllStart <MODE> <Application_id>

- The System Name Server and Resource Model are launched.
- The **Message Handler** GUI is displayed.
- Eventually, the **Planning Workbench** GUI is displayed.
- Then the **Production Planning Timeline** GUI is displayed.
  - The **Production Planning Timeline** GUI usually occupies the entire screen when it is initially displayed.
- The **application_id** or **MSGSRV_ID** is a number from 1 to 5. It identifies the message service in use so messages can be directed to the proper message handler GUI. Consequently, it is a good idea to use the same application_id consistently during a production planning session.
- Go to Step 8.

5 If the number of DPRs in the database is large (~4000 or more), start the Message Handler, System Name Server, and Resource Model by entering:

EcPlSomeStart <MODE> <Application_id>

- The **Message Handler** GUI is displayed.
- Wait until the Resource Model is completely up before proceeding with starting the **Planning Workbench** GUI.

6 If the number of DPRs in the database is large (~4000 or more), start the **Planning Workbench** GUI by entering:

EcPlWbStart <MODE> <Application_id>

- The **Planning Workbench** GUI is displayed.

7 If the number of DPRs in the database is large (~4000 or more), start the **Production Planning Timeline** GUI by entering

EcPlTlStart <MODE> <Application_id>

- The **Production Planning Timeline** GUI is displayed.

8 If the **Production Planning Timeline** GUI is occupying the whole screen, either **single-click** on the "minimize" icon in the upper right corner of the GUI or adjust the window size and the view of the timeline as necessary using the mouse.

- Grab a corner of the timeline window with the cursor and resize the window as desired.

Table 13.4-2. Launch the Planning Workbench and Planning Timeline GUIs - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	Set environment variables if necessary	**enter text, press Enter**
4	**EcPlAllStart <MODE>** <**application_id**>	**enter text, press Enter**

13.4.2 Create a New Production Plan

The Production Planner uses the Planning Workbench when creating a plan for production data processing at the DAAC. The Planning Workbench GUI provides the means by which the Production Planner selects specific PRs whose DPRs are to be run. The planning tool provides a forecast of the start and completion times of the jobs based upon historical experience in running these PGEs (as determined during the SSI&T process). Through the planning tool, when the generated plan is "activated," the information included in the plan is transferred to the Data Processing Subsystem and loaded into the Platinum AutoSys tool where production processing is managed.

Table 13.4-3 presents (in a condensed format) the steps required to create a new Production Plan. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Launch the Planning Workbench (refer to Section 13.4.1).

- The **Planning Workbench** and **Planning Timeline** GUIs are displayed.

2 Execute the following menu path on the **Planning Workbench GUI**:

File → **New**

- The **New Plan** window is displayed.

3 In the **Plan Names** field enter:

<plan name>

- Name is displayed in **Plan Names** field.
- Status is **Candidate**.

4 **Single-click** on the appropriate button from the following selections:

- **Ok** - to accept the file name in the **Plan Names** field.
  - The **New Plan** window is dismissed.
  - The production plan is saved with the specified file name.
- **Apply** - to save the production plan without dismissing the **New Plan** window.
  - The production plan is saved with the specified file name.
- **Cancel** - to dismiss the **New Plan** window without saving the production plan.

5 If applicable, **single-click** on the option button associated with the **Strategy** field, then select the desired production strategy from the option menu.

6 If applicable, in the **Comment** field enter:

<comment>

7 Select a Production Request to be scheduled by **single-clickin**g on the request line and **single-clicking** on **schedule/unschedule** up and down arrows to move the Production Request from the **Unscheduled** panel to the **Scheduled** panel or vice versa.

- Production Request will appear in the appropriate panel.
- Operator can **single-click** on multiple Production Requests to add them all at the same time.
- If the PR depends upon another PR that is not scheduled, then the following message is displayed: "Production Request '*xxx*' must be selected before DPR '*yyy*' of Production Request '*zzz*' can be scheduled."
- If all DPRs associated with a PR have been run, the PR cannot be rescheduled.
- If processing of the currently active plan is to be continued when the new plan is activated, include the PR(s) for the currently active plan in the new plan.
- In the **Scheduled** list, items with the prefix "GE_" are resource reservations (also called "ground events").
- All ground events are automatically scheduled with any plan; therefore, the ground events are normally displayed in the Scheduled list.
- Whenever a plan is activated, the ground events are activated as well as the DPRs associated with the specified PRs.
- If a ground event appears in the **Unscheduled** list, the ground event has lost allocations.

8 If the priority of any PR in the **Scheduled** list needs to be changed, perform Steps 9 through 13; otherwise go to Step 14.

9 **Single-click** on the PR entry in the **Scheduled** list to highlight it.

10 **Single-click** on the **Prioritize** button.
- The **Priority popup** window is displayed.

11 In the **Production Request(s) priority** field enter:
<priority value>

12 **Single-click** on the appropriate button from the following selections:
- **OK** - to accept the new priority in the **Production Request(s) priority** field.
  - The **Priority popup** window is dismissed.
  - The new priority for the PR is saved in the database.
- **Cancel** - to dismiss the **Priority popup** window without saving the new priority.

13 Repeat Steps 9 through 12 for any additional PR(s) needing a change of priority.

14 Execute the following menu path:
File → Save As
- The **Save Plan** window is displayed.

15 If the **plan name** for the production plan is not displayed in the **Plan Names** field, enter:
<plan name>

16 **Single-click** on the appropriate button from the following selections:
- **Ok** - to accept the file name in the **Plan Names** field.
  - The **Save Plan** window is dismissed.
  - The production plan is saved with the specified file name.
  - The **Planning Workbench** GUI is displayed.
  - The **Plan Name** is displayed.
  - The **Status** displayed is **Candidate**.
- **Apply** - to save the production plan without dismissing the **Save Plan** window.
  - The production plan is saved with the specified file name.
- **Cancel** - to dismiss the **Save Plan** window without saving the production plan.

17 If the plan is to be activated immediately, perform Steps 18 and 19; otherwise go to Step 20.

18 **Single-click** on the **Activate** button.
- A **Confirm Activation** dialogue box is displayed.

19 **Single-click** on the appropriate button from the following selections:

- **Yes** - to activate the plan.
  - The **Confirm Activation** dialogue box is dismissed.
  - The new plan is activated.
  - The time of plan activation is displayed next to **Rollover Time** on the **Planning Workbench** GUI.
  - When a plan is activated the Data Processing Requests (DPRs) associated with the planned PRs are transferred to Job Management in the Data Processing Subsystem.
  - Once its data dependencies have been satisfied, each DPR is "released" to be run as processing resources become available.
  - Activating a new plan causes the current active plan to get "replanned over" by the selected plan.
- **No** – to dismiss the **Confirm Activation** dialogue box without activating the plan.

20 If it is desired to baseline the plan, perform Steps 21 through 25; otherwise go to Step 26.

21 **Single-click** on the **Baseline** button.

- A confirmation dialogue box containing the message **The current plan is <Plan Name>. Do you wish to baseline it?** is displayed.
- Clicking on the **Baseline** button records the plan and the time of baselining.
- A baseline plan can be used as a point of comparison with which to compare future plans and results.

22 If it is desired to baseline the plan, **single-click** on the appropriate button from the following selections:

- **Yes** - to baseline the plan.
  - The confirmation dialogue box containing the message **The current plan is <Plan Name>. Do you wish to baseline it?** is dismissed.
  - The plan is baselined.
- **No** – to dismiss the confirmation dialogue box containing the message **The current plan is <Plan Name>. Do you wish to baseline it?** without baselining the plan.

23 Execute the following menu path:

File → Save As

- The **Save Plan** window is displayed.

24 If the **plan name** for the production plan is not displayed in the **Plan Names** field, enter:

<plan name>

25 **Single-click** on the appropriate button from the following selections:

- **Ok** - to accept the file name in the **Plan Names** field.
  - The **Save Plan** window is dismissed.
  - The production plan is saved with the specified file name.
- **Apply** - to save the production plan without dismissing the **Save Plan** window.
  - The production plan is saved with the specified file name.
- **Cancel** - to dismiss the **Save Plan** window without saving the production plan as a baseline plan.

26 Repeat Steps 1 through 25 to perform additional production planning activities.

27 To view the **Planning Timeline** perform the procedure in Section 13.4.3.

28 To quit the **Planning Workbench** GUI when production planning is complete execute the following menu path:

File → Exit

29 After quitting the **Planning Workbench** GUI **single-click** in the UNIX window used to start the **Planning Workbench** GUI.

- The Message Handler, System Name Server, and Resource Model should be shut down to eliminate unneeded processes and allow other operators to gain access to the Planning Workbench if necessary.

30 Shut down Planning Workbench-related applications by entering:

EcPlSlayAll <MODE> <Application_id>

- The following Planning Workbench-related applications shut down:
  - Planning Workbench (if it has not already been shut down).
  - Planning Timeline (if it has not already been shut down).
  - Message Handler.
  - System Name Server.
  - Resource Model.

31 Obtain a list of active processes in the specified mode by entering:

ps -ef | grep <MODE>

- A list of active processes in the specified mode is displayed.
- If an error message is received when **ps -ef | grep <MODE>** is entered, enter:

  ps -auxwww | grep <MODE>

32 Examine the list of processes running in the specified mode to determine whether the Message Handler, System Name Server, and Resource Model processes have actually been shut down.

- None of the following processes should be active:
  - EcPlWb
  - EcPlTl
  - EcPlMsh
  - EcPlSns
  - EcPlRm

33 If any of the specified processes [especially the Message Handler, System Name Server, and/or Resource Model process(es)] is/are still active, terminate the active process(es) by entering:

kill -15 <PROCESS ID1> <PROCESS ID2> <…> <PROCESS IDx>

34 Repeat Steps 31 through 33 as necessary.

Table 13.4-3. Create a New Production Plan - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Launch **Planning Workbench**	Use procedure in Section 13.4.1
2	**File** → **New**	**single-click**
3	**<plan name>**	**enter text**
4	**Ok** button	**single-click**
5	**<strategy>** (from **Strategy** button)	**single-click**
6	**<Production Request(s)>** to schedule/unschedule	**single-click**
7	Either **Schedule** button or **Unschedule** button as applicable	**single-click**
8	**File** → **Save As**	**single-click**
9	**<plan name>**	**enter text**
10	**Ok** button	**single-click**
11	**Activate** button (if applicable)	**single-click**
12	**Yes** button (if applicable)	**single-click**
13	**Baseline** button (if applicable)	**single-click**
14	**Yes** button (if applicable)	**single-click**
15	**File** → **Save As** (if applicable)	**single-click**
16	**<plan name>** (if applicable)	**enter text**
17	**Ok** button (if applicable)	**single-click**
18	View the **Planning Timeline** if desired	Use procedure in Section 13.4.3
19	**File** → **Exit** (when applicable)	**single-click**
20	**EcPlSlayAll <MODE> <Application_id>**	**enter text, press Enter**

Table 13.4-3. Create a New Production Plan - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
21	**ps -ef | grep <MODE>**	**enter text, press Enter**
22	**kill -15 <PROCESS ID1> <PROCESS ID2> <…> <PROCESS IDx>** to terminate active process(es) (if necessary)	**enter text, press Enter**

13.4.3 Delete a Production Plan

The Production Planner uses the Planning Workbench GUI to delete production plans that are no longer needed. Table 13.4-4 presents (in a condensed format) the steps required to delete a production plan. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Planning Workbench** GUI (refer to Section 13.4.1).

- The **Planning Workbench** GUI is displayed.

2 Execute the following menu path:

File → **Open**

- The **Open Plan** window is displayed.
- A list of Production Plans is displayed in the **Open Plan** window.

3 Select (highlight) the production plan to be deleted by **single-clicking** on the corresponding name in the list of plans.

- The plan name is displayed in the **Plan Names** field of the **Open Plan** window.

4 **Single-click** on the **OK** button.

- The **Open Plan** window is dismissed.
- The plan information is displayed on the **Planning Workbench** GUI.

5 Execute the following menu path:

File → **Delete**

- The production plan is deleted.

6 To quit the **Planning Workbench** GUI execute the following menu path:

File → **Exit**

7 After quitting the **Planning Workbench** GUI **single-click** in the UNIX window used to start the **Planning Workbench** GUI.

- The Message Handler, System Name Server, and Resource Model should be shut down to eliminate unneeded processes and allow other operators to gain access to the Planning Workbench if necessary.

8 Shut down Planning Workbench-related applications by entering:

EcPlSlayAll <MODE> <Application_id>

- The following Planning Workbench-related applications shut down:
  - Planning Workbench (if it has not already been shut down).
  - Planning Timeline (if it has not already been shut down).
  - Message Handler.
  - System Name Server.
  - Resource Model.

9 Obtain a list of active processes in the specified mode by entering:

ps -ef | grep <MODE>

- A list of active processes in the specified mode is displayed.
- If an error message is received when **ps -ef | grep <MODE>** is entered, enter:

  ps -auxwww | grep <MODE>

10 Examine the list of processes running in the specified mode to determine whether the Message Handler, System Name Server, and Resource Model processes have actually been shut down.

- None of the following processes should be active:
  - EcPlWb
  - EcPlTl
  - EcPlMsh
  - EcPlSns
  - EcPlRm

11 If any of the specified processes [especially the Message Handler, System Name Server, and/or Resource Model process(es)] is/are still active, terminate the active process(es) by entering:

kill -15 <PROCESS ID1> <PROCESS ID2> <…> <PROCESS IDx>

12 Repeat Steps 9 through 11 as necessary.

Table 13.4-4. Delete a Production Plan - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Planning Workbench** GUI	Use procedure in Section 13.4.1
2	**File → Open**	**single-click**
3	**<plan name>** (from **Production Requests** list)	**single-click**
4	**OK** button	**single-click**
5	**File→Delete**	**single-click**
6	**File → Exit**	**single-click**
7	**EcPlSlayAll <MODE> <Application_id>**	**enter text, press Enter**
8	**ps -ef | grep <MODE>**	**enter text, press Enter**
9	**kill -15 <PROCESS ID1> <PROCESS ID2> <…> <PROCESS IDx>** to terminate active process(es) (if necessary)	**enter text, press Enter**

13.4.4Review a Plan Timeline

Table 13.4-5resents (in a condensed format) the steps required to review planning timelines. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Launch the **Planning Workbench** and **Timeline** GUIs (refer to Section 13.4.1).

- The **Planning Timeline** GUI is displayed.
- If you have previously saved a configuration file, you may load it by executing the following menu path:

  File → Load Configuration

  – Change directory in GUI box, if necessary.
- Otherwise continue with Step 2.

2 Execute the following menu path:

File → Open Plan

- The **Open Plan** window is displayed with a list of plans.

3 **Single-click** on the name (in the **Items** list) of the plan to be reviewed.

4 **Single-click** on the appropriate button from the following selections:

- **OK** - to open the selected plan and dismiss the **Open Plan** window.
  – The timeline for the specific plan is displayed.
  – Name is displayed in the Title bar.

- **Apply** - to open the selected plan without dismissing the **Open Plan** window.
  - The timeline for the specific plan is displayed.
  - Name is displayed in the Title bar.
- **Cancel** - to dismiss the **Open Plan** window without opening any plan.

5 Observe the production plan information displayed on the timeline GUI.

6 If a different time scale (start and end dates and times) is desired, perform Steps 7 through 10; otherwise, go to Step 11.

7 Execute the following menu path:

Time → Change Plan Window

- The **plan window edit** window appears with default times.

8 In the **Plan Win Start** fields enter the start date and time in the following formats:

<DD MMM YYYY> <hh:mm:ss>

9 In the **Plan Win End** fields enter the end date and time in the following formats:

<DD MMM YYYY> <hh:mm:ss>

10 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept the changes and dismiss the **plan window edit** window.
- **Apply** - to accept the changes without dismissing the **plan window edit** window.
- **Cancel** - to cancel the changes and dismiss the **plan window edit** window.

11 If a different time span is desired, **single-click** on the **Show** pushbutton and select one of 11 time increments between **5 min** and **168 hrs** for the timeline scale.

- The entry "**other**" has no purpose at this time.

12 If no resources are displayed on the GUI or if different resources should be displayed, perform Steps 13 through 19; otherwise, go to Step 20.

13 Execute the following menu path:

Display → Change resources

- **Resource edit** window with lists of **Available Resources** and **Viewed Resources** is displayed.

14 **Single-click** resource(s) in desired list.

- Multiple resources may be selected by single-clicking each desired resource.

15 **Single-click** either **Add** or **Del**.

- **Add** to move the resource(s) from the **Available** list to the **Viewed** list.
- **Del** to remove items from the **Viewed** List.

16 To change the order in which resources are displayed on the timeline, **single-click** on an item in the **Viewed Resources** list.

17 To change the order in which resources are displayed on the timeline, **single-click** on the **up** or **down** arrow(s) as appropriate.

- Selected resource moves up or down in order on the list.

18 Repeat Steps 16 and 17 as necessary.

19 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept the changes and dismiss the **Resource edit** window.
- **Apply** - to accept the changes without dismissing the **Resource edit** window.
- **Cancel** - to cancel the changes and dismiss the **Resource edit** window.

20 If different color coding of the timeline is desired, perform Steps 21 through 25; otherwise, go to Step 26.

21 Execute the following menu path:

Display → Change colors

- Color grid appears with a list of Production Requests.

22 **Single-click** on the Production Request name.

23 **Single-click** on the desired color for the Production Request.

- New color appears on the horizontal bar between color and Production Request selections.

24 Repeat Steps 22 and 23 as necessary.

25 **Single-click** on the appropriate button from the following selections:

- **OK** - to accept the changes and dismiss the **Color Selections** window.
- **Apply** - to accept the changes without dismissing the **Color Selections** window.
- **Cancel** - to cancel the changes and dismiss the **Color Selections** window.

26 Observe the production plan information displayed on the timeline GUI.

27 If desired, save the current configuration as a file by executing the following menu path:

File → Save Configuration

28 **Single-click** on the appropriate button from the following selections:

- **OK** - to save the configuration and dismiss the **Color Selections** window.

- **Apply** - to save the configuration without dismissing the **Color Selections** window.
- **Cancel** - to dismiss the **Color Selections** window without saving the configuration.

29 To exit the **Planning Master Timeline** GUI, execute the following menu path:

File → Exit

- The **Planning Master Timeline** GUI is dismissed.

Table 13.4-5 Review a Plan Timeline - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Launch **Planning Workbench** and **Timeline**	Use procedure in Section 13.4.1
2	**File → Load Configuration**) (optional)	**single-click**
3	**File → Open Plan**	**single-click**
4	**<plan name>**	**single-click**
5	**Ok** button	**single-click**
6	Observe the production plan information	**read text**
7	**Time → Change Plan Window**	**single-click**
8	**<DD MMM YYYY> <hh:mm:ss>** (in **Plan Win Start** fields)	**enter text**
9	**<DD MMM YYYY> <hh:mm:ss>** (in **Plan Win End** fields)	**enter text**
10	**Ok** button	**single-click**
11	**<time span>** (from **Show** pushbutton)	**single-click**
12	**Display → Change resources** (if applicable)	**single-click**
13	**<resources>** (if applicable)	**single-click**
14	**Add** button (if applicable)	**single-click**
15	**<viewed resource>** to be reordered (if applicable)	**single-click**
16	**<up>** arrow or **<down>** arrow (as necessary to reorder viewed resources) (if applicable)	**single-click**
17	**Ok** button (if applicable)	**single-click**
18	**Display → Change colors** (if applicable)	**single-click**
19	**<Production Request>** (if applicable)	**single-click**
20	**<color>** (for Production Request) (if applicable)	**single-click**
21	**Ok** button (if applicable)	**single-click**
22	Observe the production plan information	**read text**
23	**File → Save Configuration** (if applicable)	**single-click**
24	**<file name>** (if applicable)	**enter text**
25	**Ok** button (if applicable)	**single-click**
26	**File → Exit** (when applicable)	**single-click**

13.5 Resetting/Cleaning the PDPS Database and DPS Disks

Among the scripts in the /usr/ecs/<MODE>/CUSTOM/utilities directory on the Planning/Management Workstation are scripts for performing the following functions:

- Resetting databases.
- Listing available saved databases.
- Saving databases.
- Cleaning up tables in a PDPS database.
- Ensuring consistency between the file references in various tables in the PDPS database and the files actually staged on the data processing disks.

Table 13.5-1 provides an Activity Checklist for activities related to resetting/cleaning the PDPS database.

Table 13.5-1. Database Cleaning - Activity Checklist

Order	Role	Task	Section	Complete?
1	Production Planner Database Administrator	Save and/or Reset the PDPS Database	(P) 13.5.1	
2	Production Planner Database Administrator	Clean the PDPS Database	(P) 13.5.2	
3	Production Planner Database Administrator	Clean DPS Disks	(P) 13.5.3	

13.5.1 Save and/or Reset the PDPS Database

The utilities directory (/usr/ecs/<MODE>/CUSTOM/utilities) contains the following three scripts that are used in resetting the database:

- EcPlDbReset.
- EcPlDbList.
- EcPlDbSave.

Saving the database using the EcPlDbSave script produces one ASCII file (with a ".dat" extension) for each database table and writes each file to a specified directory. The saved data can be restored to the database by running the EcPlDbReset script with the name of the saved database as an argument.

Resetting the database involves clearing ("wiping out") the data in the database tables and loading values from a specified "saved database" file. It is important to take into consideration

the consequences of resetting the database before performing the procedure. Resetting the database removes and replaces **all** Resource Definitions, Resource Reservations (Ground Events), Production Requests, Data Processing Requests, and Production Plans. There should be coordination with all affected parties, including the Resource Planner, Production Planner, and Production Monitors concerning the effects of resetting the database as well as its after-effects (e.g., recreating resource definitions, resource reservations, and production requests).

Whenever the PDPS database is reset (not including database cleanup by running the EcPlDbClean script) it is also necessary to remove all PLS subscriptions in the Communications Subsystem (CSS) Subscription Server database (where the subscriber is Subscription Manager). Production personnel can remove the subscriptions using the Subscription Server GUI (EcSbSubServerGUI) if they have access to the GUI. Otherwise, they can request User Services personnel to remove the subscriptions.

As a result of removing the subscriptions, no subscription notification will come through for existing jobs in the newly loaded database. Only new jobs generated using the Production Request Editor will work normally with regard to subscriptions.

The scripts used in saving and/or resetting the database are invoked from a UNIX command line prompt. Table 13.5-2 presents (in a condensed format) the steps required to save and/or reset the PDPS database. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

NOTE: It is important to log in as a user who has "write" permission in the saved_dumps directory (/usr/ecs/<MODE>/CUSTOM/utilities/saved_db/saved_dumps); otherwise it will not be possible to save database contents.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

- Application home environment is entered
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.

3 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)

- TS2 - New Version Checkout
- OPS - Normal Operations

- "utilities" is the directory containing the Planning Subsystem start-up scripts.

4 If saving the current database is desired, start the process of saving the database by entering:

EcPlDbSave <Saved_DB_Name>

- **<Saved_DB_Name>** is the desired name for the directory into which the data files will be written.
- If there is not already a directory with the specified **<Saved_DB_Name>**, a **"Making directory..."** message is displayed.
- If there is already a directory with the specified **<Saved_DB_Name>**, the following prompt is displayed:
  Are you sure you wish you overwrite previously saved version of <Saved_DB_Name>? (Y/N)

5 If the prompt **Are you sure you wish you overwrite previously saved version of <Saved_DB_Name>? (Y/N)** appears, enter either **Y** or **N** (as appropriate)

- If **y** is entered, the data are saved in the specified directory, replacing the data that had previously been saved there.
- If **n** is entered, an **"Exiting without saving database..."** message is displayed.

6 If obtaining a listing of saved databases is desired, generate a listing of the saved databases by entering:

EcPlDbList

- A listing of saved databases is displayed.
- The listing is a useful tool to display the options for resetting the database.

7 If resetting the current database is desired, start the database reset process by entering:

EcPlDbReset <Saved_DB_Name>

- **<Saved_DB_Name>** refers to the name of the directory containing the data files to be loaded into the database.
- The data in the database are replaced with the data from the specified directory.
- When the database has been reset a **"Successfully reset the database to <Saved_DB_Name>"** message is displayed.

Table 13.5-2. Save and/or Reset the PDPS Database - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	Set environment variables if necessary	**enter text, press Enter**
3	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
4	**EcPlDbSave <Saved_DB_Name>** (if applicable)	**enter text, press Enter**
5	Either **Y** or **N** (if applicable)	**enter text, press Enter**
6	**EcPlDbList** (if applicable)	**enter text, press Enter**
7	**EcPlDbReset <Saved_DB_Name>** (if applicable)	**enter text, press Enter**

13.5.2 Clean the PDPS Database

In the /usr/ecs/<MODE>/CUSTOM/utilities directory on the Planning/Management Workstation there is a script that can be run to clean up some tables in a PDPS database. When it runs, the script tries to delete applicable records in the following order:

- Data Processing Requests based on timeStamp completionState(SUCC_DEL).
- Production Requests that have no associated DPRs.
- Dynamic data granules that are not used by any DPR or by the Data Processing Subsystem.
- List of data granules that are not deleted because of Data Processing Subsystem usage.
- PGEs marked with a deleteFlag.
- Science Software that has no associated PGE.

The database cleaning script is invoked from a UNIX command line prompt. Table 13.5-3 presents (in a condensed format) the steps required to clean the PDPS database. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 Set the application environment variables by entering:

setenv ECS_HOME /usr/ecs/

- Application home environment is entered
- When logging in as a system user (e.g., cmshared), the ECS_HOME variable may be set automatically so it may not be necessary to set it manually.

3 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "utilities" is the directory containing the Planning Subsystem start-up scripts.

4 Start the database cleaning script by entering:

EcPlDbClean <MODE> <database user> <database password> <database server> <months> <days>

- **<database user>** is the user name for logging in to interactive structured query language (isql).
- **<database password>** is the password for isql login.
- **<database server>** refers to the name of the PDPS database server (e.g., x0pls02_srvr).
- **<months>** is a number specifying the removal of records that are older than that number of months.
- **<days>** is a optional argument. It is a number that specifies the removal of records that are older than that number of days.
- Both **<months>** and **<days>** are taken into account by the cleaning script.

5 Observe the results as the script runs.

- A UNIX command line prompt is displayed when the script has finished.

Table 13.5-3. Clean the PDPS Database - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	Set environment variables if necessary	**enter text, press Enter**
3	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
4	**EcPlDbClean <MODE> <database server> <database user> <database password> <months> <days>**	**enter text, press Enter**

Table 13.5-3. Clean the PDPS Database - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
5	Observe script results	**read text**

13.5.3 Clean DPS Disks

In the /usr/ecs/<MODE>/CUSTOM/utilities directory on the Queuing Server there is a script (i.e., EcDpPrRmFilesWOGranules.pl) that can be run to ensure consistency between the file references in various tables in the PDPS database and the files actually staged on the data processing disks. When it runs, the script performs the following functions:

- Generates a list of files with consistent references among various tables in the PDPS database for the specified mode.
- Checks for files on the disk that are not included in the list of files referenced in the PDPS database and either lists the inconsistent files or generates a script to delete them (as specified by the person running the script).
- Checks to determine whether the disk partitions referenced in the PDPS database actually exist on the disk(s).
  - If the disk partitions are not on the disk(s), the script removes references to them from the database.
- Removes all file references in the PDPS database that are not included in the list of files.
  - The script resets the PlRscDiskPartition according to the remaining DpPrDiskPartition entries (if specified by the person running the script).

The script for cleaning DPS disks is invoked from a UNIX command line prompt. Table 13.5-4 presents (in a condensed format) the steps required to clean the DPS disks. If you are already familiar with the procedures, you may prefer to use this quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures.

NOTE: The **EcDpPrRmFilesWOGranules.pl** script should be run when the system is relatively quiet; i.e., when no jobs are running in AutoSys.

1 Access a terminal window logged in to the Planning/Management Workstation host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 In the terminal window, at the command line, enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "utilities" is the directory containing the Planning Subsystem start-up scripts.

3 Start the database cleaning script by entering:

EcDpPrRmFilesWOGranules.pl <database user> <database password> <MODE> <database server> fix [or **nofix**]

- **<database user>** is the user name for logging in to isql.
- **<database password>** is the password for isql login.
- **<database server>** refers to the name of the PDPS database server (e.g., x0pls02_srvr).
- **fix** (or **nofix**) specifies wheher or not inconsistent files are removed from the data processing disks.
- An option is to add **>& fix.log** or **>& /usr/ecs/<MODE>/CUSTOM/logs/fix.log** to the end of the command line to direct the output of the script to a log file.
- For example:

  EcDpPrRmFilesWOGranules.pl pdps_role password1 OPS x0pls02_srvr nofix

4 Observe the results as the script runs.
- A UNIX command line prompt is displayed when the script has finished.

Table 13.5-4. Clean DPS Disks - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	**EcDpPrRmFilesWOGranules.pl <database user> <database password> <MODE> <database server> fix** [or **nofix**]	**enter text, press Enter**
4	Observe script results	**read text**

13.6 Tuning System Parameters

The Production Planner works with the rest of the production team (i.e, Resource Planner and Production Monitors) to tune system parameters. Detailed procedures are included in Chapter 14, Production Processing.

13.7 Troubleshooting Production Planning Problems

Troubleshooting is a process of identifying the source of problems on the basis of observed trouble symptoms. One common source of problems involves connections with other subsystems for the transmission of messages or data. Like many other operational areas in ECS, Planning has interfaces with many other subsystems. Consequently, problems with processing can be traced to either the Planning Subsystem or one of many other ECS subsystems, including (but not necessarily limited to) those in the following list:

- Data Processing Subsystem (DPS).
- Data Server Subsystem (DSS).
- Interoperability Subsystem (IOS).
- Communications Subsystem (CSS).

Table 13.7-1, below, provides an Activity Checklist for troubleshooting Production Planning problems.

Table 13.7-1. Troubleshooting Production Planning Problems - Activity Checklist (1 of 2)

Order	Role	Task	Section	Complete?
1	Production Planner	Troubleshoot a Production Planning Problem	(P) 13.7.1	
2	Production Planner	Check Connections to Hosts/Servers	(P) 13.7.1.1	
3	Production Planner	Check Log Files	(P) 13.7.1.2	
4	Production Planner	Check Database Connections	(P) 13.7.1.3	
5	Production Planner	Handle a Failure to Generate DPRs	(P) 13.7.2	
6	Production Planner	Check the Production Request Editor ALOG File	(P) 13.7.2.1	
7	Production Planner	Use ISQL to Check Database Tables	(P) 13.7.2.2	
8	Production Planner	Check the PDPS Database for Causes of Failure to Generate DPRs	(P) 13.7.2.3	
9	Production Planner	Check for DPR Explosion Failure Because the Production Request Editor Does Not Query DSS for Data	(P) 13.7.2.4	
10	Production Planner	Check the Production Request Editor Debug File for Evidence of Metadata Queries	(P) 13.7.2.5	
11	Production Planner	Respond to PR or DPR Deletion that Hangs	(P) 13.7.3	
12	Production Planner	Check for Database Deadlocks	(P) 13.7.3.1	
13	Production Planner	Check for Resource Locks in the PDPS Database	(P) 13.7.3.2	
14	Production Planner	Respond to DPR Deletion that Fails	(P) 13.7.4	
15	Production Planner	Handle a DPR Scheduling Failure	(P) 13.7.5	

Table 13.7-1. Troubleshooting Production Planning Problems - Activity Checklist (2 of 2)

Order	Role	Task	Section	Complete?
16	Production Planner	Respond to a "DPR Validation Failed" Error	(P) 13.7.5.1	
17	Production Planner	Respond to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" Error	(P) 13.7.5.2	

13.7.1 Troubleshoot a Production Planning Problem

1 If it is not possible to log in to the Planning Subsystem host, ask the Operations Controller/System Administrator to verify that the host is “up."

- Examples of Planning Subsystem host names include **e0pls03**, **g0pls01**, **l0pls02**.

2 If the GUI (e.g., the **Production Request Editor**, the **Production Strategies GUI**, or the **Planning Workbench**) is not displayed when the start-up script has been properly invoked, ensure that the DISPLAY variable was set properly.

- For detailed instructions refer to the applicable procedure.
  - **Launch the Production Request Editor** (Section 13.2.2).
  - **Launch the Production Strategies GUI** (Section 13.3.1).
  - **Launch the Planning Workbench and Planning Timeline GUIs** (Section 13.4.1).

3 If an error message is received indicating that SNS (System Name Server) and/or Resource Model is/are in use using the selected Application ID and if working in a different mode from the person using the selected Application ID, use a different Application ID.

- For detailed instructions refer to the applicable procedure.
  - **Launch the Production Request Editor** (Section 13.2.2).
  - **Launch the Planning Workbench and Planning Timeline GUIs** (Section 13.4.1).

4 If an error message is received indicating that SNS (System Name Server) and/or Resource Model is/are in use using the selected Application ID and if working in the same mode as the person using the selected Application ID, coordinate use of Planning applications with the other user and/or the System Administrator.

5 If an error message associated with the Production Request Editor is received, refer to Table 13.7-2, Production Request Editor User Messages.

- The table is adapted from the corresponding table in 609-CD-600-001, *Release 6A Operations Tools Manual for the ECS Project*).

6 If an error message associated with the Production Strategies GUI is received, refer to Table 13.7-3, Production Strategies GUI User Messages.

- The table is adapted from the corresponding table in 609-CD-600-001, *Release 6A Operations Tools Manual for the ECS Project*).

7 If an error message associated with the Planning Workbench is received, refer to Table 13.7-4, Planning Workbench User Messages.

- The table is adapted from the corresponding table in 609-CD-600-001, *Release 6A Operations Tools Manual for the ECS Project*).

8 If a Production Request fails (DPR generation fails), ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections to Hosts/Servers** procedure (Section 13.7.1.1).

10 If a Production Request fails (DPR generation fails) and if the servers are all "up," perform the **Handle a Failure to Generate DPRs** procedure (Section 13.7.2).

11 If a PR or DPR deletion hangs, ensure that enough time has passed to allow DPR deletion.

- Deleting a DPR can require as much time as creating a DPR.

12 If a PR or DPR deletion hangs and enough time has passed to allow DPR deletion, check for a database lock or resource lock in the PDPS database.

- For detailed instructions refer to the **Respond to PR or DPR Deletion that Hangs** procedure (Section 13.7.3).

13 If DPR deletion fails, ensure that enough time has passed to allow DPR deletion.

- Deleting a DPR can require as much time as creating a DPR.

14 If DPR deletion fails and enough time has passed to allow DPR deletion, check the Deletion Server Debug log (EcDpPrDeletionDebug.log).

- For detailed instructions refer to the **Respond to DPR Deletion that Fails** procedure (Section 13.7.4).

15 If DPR scheduling fails (DPR is not passed to Data Processing), perform the **Handle a DPR Scheduling Failure** procedure (Section 13.7.5).

16 If some other type of problem is encountered, check the log files for error messages.

- Examples of log files include EcPlPREditor.ALOG, EcPlPREditorDebug.log, EcPlWb.ALOG, EcPlWbDebug.log, EcPlTl.ALOG.
- Log files are located in the /usr/ecs/<MODE>/CUSTOM/logs directory.
- For detailed instructions refer to the **Check Log Files** procedure (Section 13.7.1.2).

17 If the problem cannot be identified and fixed without help within a reasonable period of time, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 13.7-2. Production Request Editor User Messages (1 of 5)

Message Text	Cause and Corrective Action
Data Processing Request not open, Data Processing Request to be open must be selected.	1. **Single-click** on (highlight) a DPR from the DPR List. 2. Execute **File** → **Open** from the pull-down menu to open the DPR. [For detailed instructions refer to the **Display Data Processing Request Information** procedure (Section 13.2.6).]
Do you want to delete this DPR "DPRID"?	1. **Single-click** on **Yes** to delete the DPR. 2. **Single-click** on **No** to keep the DPR.
Do you want to delete this PR "PRNAME"?	1. **Single-click** on **Yes** to delete the PR. 2. **Single-click** on **No** to keep the PR.
DPR Delete Failed.	Check the log files (e.g., EcPlPREditor.ALOG) in the /usr/ecs/<MODE>/CUSTOM/logs directory for error messages. [For detailed instructions refer to the **Check Log Files** procedure (Section 13.7.1.2).]
Dpr Generation Incomplete for PR "PRNAME". Do you want to complete Dpr explosion?	1. **Single-click** on **Yes** to complete the DPR generation. 2. **Single-click** on **No** to display another message that will show how many DPRs have been generated so far.
Environment variable PL_NEW not set.	1. Submit a request to the Database Administrator to check the value assigned to **PL_NEW** (associated with EcPlPREditor) in the Configuration Registry. 2. If no value is specified for **PL_NEW**, submit a request to the Database Administrator to add the value **PL_NEW = New** for the EcPlPREditor in the Configuration Registry.
Invalid Time is entered or End time is less than Begin Time.	Ensure that the **Begin** and **End** dates/times entered on the **PR Edit** screen are valid.
Must select a PGE for Production Request before saving.	1. **Single-click** on the **PGE** button of the **PR Edit** screen to open the **PGE** screen. 2. **Single-click** on (highlight) a PGE from the PGE list. 3. **Single-click** on the **OK** button.
MyDprPlProductionRequest Construct from Database Failed.	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
MyPlPge Construct from Database Failed.	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 13.7-2. Production Request Editor User Messages (2 of 5)

Message Text	Cause and Corrective Action
MyPlProductionRequestInstance Construct from Database Failed.	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Message Text	Cause and Corrective Action
MyPlUserParametersCollection Construct from Database Failed.	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
“NoOfDprs" Dpr(s) have previously been generated. Are you sure you want to delete this PR?	1. **Single-click** on **Yes** to delete the PR. 2. **Single-click** on **No** to clear the message.
PlDpr Construct from Database Failed.	1. **Single-click** on (highlight) a DPR from the DPR List. 2. Either execute **File** → **Open** from the pull-down menu or enter **Ctrl-O** on the keyboard to open the DPR. [For detailed instructions refer to the **Display Data Processing Request Information** procedure (Section 13.2.6).]
Please select a Dpr you want to delete from the DPR List.	1. **Single-click** on (highlight) a DPR from the DPR List. 2. Either execute **Edit** → **Delete** from the pull-down menu or enter **Ctrl-D** on the keyboard to delete the DPR. [For detailed instructions refer to the **Delete a Data Processing Request** procedure (Section 13.2.7).]
Please select a PR you want to delete from the PR List.	1. **Single-click** on a PR from the PR List. 2. Either execute **Edit** → **Delete** from the pull-down menu or enter **Ctrl-D** on the keyboard to delete the PR. [For detailed instructions refer to the **Delete a Production Request** procedure (Section 13.2.5).]
Please specify production request to filter by	The **Filter** button (**File Selection** window) acts on the pattern specified in the **Filter** text entry area. (Filters all production requests by the specified pattern.) 1. Enter text (the pattern for filtering production requests) in the **Filter** text entry area. 2. **Single-click** on the **Filter** button.
PR Failed - Need to include 1st orbit in the Orbit model.	1. Enter isql commands for checking the PDPS database PlPgeOrbitModel table to determine whether the orbit information for the first orbit is in the table. [For detailed instructions refer to the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).] 2. If the orbit information for the first orbit is not in the PlPgeOrbitModel table, notify the SSI&T team.

Table 13.7-2. Production Request Editor User Messages (3 of 5)

Message Text	Cause and Corrective Action

Message Text	Cause and Corrective Action
PR Failed - Read failure from PlOrbitModel.	Unable to read the PlPgeOrbitModel table from the PDPS database. 1. Check the database connections. [For detailed instructions refer to the **Check Database Connections** procedure (Section 13.7.1.3).] 2. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Production Request "PRNAME" Deleted; "NoOfDprs" DPR(s) deleted from the database.	For information only. The message indicates how many DPRs associated with the PR were deleted.
Production Request Delete Failed.	Unable to delete a PR from the database. Check the EcPlPREditor.ALOG file in the /usr/ecs/<MODE>/CUSTOM/logs directory for error messages. [For detailed instructions refer to the **Check Log Files** procedure (Section 13.7.1.2).]
Production Request Explosion into DPR(s) Failed.	1. Ensure that it is possible to connect to the necessary hosts and servers. [For detailed instructions refer to the **Check Connections To Hosts/Servers** procedure (Section 13.7.1.1).] 2. If hosts/servers are all “up,” perform the **Handle a Failure to Generate DPRs** procedure (Section 13.7.2). 3. Retry generating DPRs by resaving the Production Request. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]
Production Request Explosion into DPRs Failed, zero DPRs Generated.	Same as the preceding entry.
Production Request Explosion into DPRs ok. "NoOfDprs" DPR(s) Generated.	For information only. The message indicates how many DPR(s) were generated during the PR Explosion.
Production Request Explosion into DPR(s) ok. "NoOfDprs" more DPR(s) Generated.	For information only. The message indicates how many more DPRs were generated for the PR.
Production Request not open, Production Request to be open must be selected.	1. **Single-click** on a PR from the PR List. 2. Either execute **File** → **Open** from the pull-down menu or enter **Ctrl-O** on the keyboard to open the PR. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]
Production Request not saved, Production Request already exists.	1. Enter a new name for the production request. 2. Save the PR. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]

Table 13.7-2. Production Request Editor User Messages (4 of 5)

Message Text	Cause and Corrective Action
Production Request not saved, Production Request must have a name shorter than 20 characters before its [sic] saved	1. Enter a PR name with fewer than 20 characters. 2. Save the PR. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]
Production Request not saved, Production Request must have a name before its [sic] saved.	1. Enter a new name for the production request. 2. Save the PR. [For detailed instructions refer to the **Create a New Production Request** procedure (Section 13.2.3).]
Production Request not saved, save Production Request first.	Save the modified PR before opening a new PR. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]
SECURITY VIOLATION: no write permission.	User does not have the permission to save a production request. 1. Execute **File** → **Exit** from the pull-down menu to exit from the Production Request Editor. 2. Log in as a user with write permission. [Contact the System Administrator for assistance if necessary.] 3. Launch the Production Request Editor. [For detailed instructions refer to the **Launch the Production Request Editor** procedure (Section 13.2.2).] 4. Create the Production Request. [For detailed instructions refer to the **Create a New Production Request** procedure (Section 13.2.3).]
Unable to Initialize PlDpr Pool.	Unable to read the DPR table from the database. 1. Check the database connections. [For detailed instructions refer to the **Check Database Connections** procedure (Section 13.7.1.3).] 2. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Unable to Initialize PlPge Pool.	Unable to read the PGE table from the database. 1. Check the database connections. [For detailed instructions refer to the **Check Database Connections** procedure (Section 13.7.1.3).] 2. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 13.7-2. Production Request Editor User Messages (5 of 5)

Message Text	Cause and Corrective Action
Unable to Initialize PlProductionRequest Pool.	Unable to read the PR table from the database. 1. Check the database connections. [For detailed instructions refer to the **Check Database Connections** procedure (Section 13.7.1.3).] 2. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Write to Database of Production Request Failed.	Unable to write the data to the database. 1. Check the database connections. [For detailed instructions refer to the **Check Database Connections** procedure (Section 13.7.1.3).] 2. If the problem recurs, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.
Zero DPR Generated. Production Request Not Saved.	The proposed Production Request might result in the creation of a duplicate DPR. 1. Compare the characteristics of the proposed PR and existing DPRs to determine whether the Production Request would result in the creation of a duplicate DPR. [For detailed instructions refer to the **Display Data Processing Request Information** procedure (Section 13.2.6).] 2. Ensure that it is possible to connect to the necessary hosts and servers. [For detailed instructions refer to the **Check Connections To Hosts/Servers** procedure (Section 13.7.1.1).] 3. If hosts/servers are all "up," perform the **Handle a Failure to Generate DPRs** procedure (Section 13.7.2). 4. Retry generating DPRs by resaving the Production Request. [For detailed instructions refer to the **Edit/Modify a Production Request** procedure (Section 13.2.4).]

Table 13.7-3. Production Strategies GUI User Messages (1 of 2)

Message Text	Cause and Corrective Action
Invalid StrategyID. Please enter a StrategyID.	Enter a valid Strategy ID. [For detailed instructions refer to the **Define or Modify a Production Strategy** procedure (Section 13.3.2).]
No StrategyID selected. Please select one.	**Single-click** on a Strategy ID from the list.

Table 13.7-3. Production Strategies GUI User Messages (2 of 2)

Message Text	Cause and Corrective Action
This StrategyID already exists.	Enter a new name for the Strategy ID.
Total Weight must be 100 – Normalize weights.	**Single-click** on the **Normalize** push button.
Value out of range (0-10).	Enter a value in the range of 0 – 10.
Value out of range (0-100).	Enter a value in the range of 0 – 100.

Table 13.7-4. Planning Workbench User Messages

Message Text	Cause and Corrective Action
Date entered 'date that was entered' is invalid.	Improper date format. Enter the date in **mm/dd/yyyy** format.
Start Time must be less than Stop Time	Improper time interval setting for plan activation. Enter a start time that is earlier than the stop time.
The following dpr jobs were failed when you activated the plan <plan name> <list of failed dprs, one per line> Do you want to recover the failed dpr jobs?	Planning Workbench detects that Job Management has not received the DPRs correctly. The operator needs to be aware that there is (are) failed job(s). **Single-click** on **Recover**; the failed jobs will be resubmitted.
You cannot reschedule with the current active plan. Do you want to create new plan to schedule production request(s) and to reactivate the plan?	Cannot replan under the same plan name. 1. **Single-click** on **Yes** to create a new plan that can be used for replanning. 2. **Single-click** on **No** and use an existing plan to activate and replan.
You have already submitted the plan, <plan name> and this plan is currently active. Do you want to create a new plan?	If the operator has already submitted this plan for activation, PWB will not allow it to be submitted twice. 1. **Single-click** on **Yes** to create a new plan that can be used for replanning. 2. **Single-click** on **No** and use an existing plan to activate and replan.
You need to save the current plan before you activate the plan!!!	Insures consistency between the database active plan and what actually gets activated. **Single-click** on **Yes** to save the plan. The next time activation is attempted there will be no error message.

13.7.1.1 Check Connections to Hosts/Servers

The procedure to **Check Connections to Hosts/Servers** is a part of the **Troubleshoot a Production Planning Problem** procedure (Section 13.7.1). Table 13.7-5 presents (in a condensed format) the steps required to check connections to hosts/servers. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the detailed procedures that follow.

1 Access a terminal window logged in to the Planning/Management Workstation.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- Most other ECS hosts are acceptable for checking connections.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/utilities

- Change directory to the directory containing the utility scripts.

3 At the command line prompt enter:

EcCsIdPingServers <MODE>

- The following type of response is displayed (only a few representative lines are shown):

  /usr/ecs/TS2/CUSTOM/bin/CSS/Sweeper -nsh x0icg01 -nsp 18202
  FoSwSweeper application started...
  We made a connection with EntryId =x0ins01:38709:23057 --- EcSrTransportSubServer
  We made a connection with EntryId =x0ins01:38712:23057 --- EcSrTransportSubEventServer
  We made a connection with EntryId =x0acs03:33379:17033 --- DsShQuitIDL
  We made a connection with EntryId =x0wkg01:11959:41838305 --- EcDsHdfEosServer_3_G3
  […]

4 Observe the results displayed on the screen to determine whether connections can be made with the necessary hosts and servers.

- The necessary hosts and servers are listed in Table 13.7-6, Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing.

5 If it is not possible to connect to any needed host(s)/server(s), notify the Operations Controller/System Administrator to check the hosts/servers and bring them back up if necessary.

6 Return to the procedure that recommended checking connections to hosts.

Table 13.7-5. Check Connections to Hosts/Servers - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Distribution Server)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/utilities**	**enter text, press Enter**
3	**EcCsIdPingServers <MODE>**	**enter text, press Enter**
4	Identify hosts and servers with whi ch connections cannot be made	**read text**
5	Notify the Operations Controller/System Administrator to bring hosts/servers back up (if applicable)	**contact Operations Controller**
6	Return to the procedure that recommended checking connections to hosts	

Table 13.7-6. Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing (1 of 2)

HOST	SERVER/CLIENT/OTHER SOFTWARE
Planning/Management Workstation	Production Request Editor (EcPlPREditor) Planning Workbench GUI (EcPlWb) Production Strategies GUI (EcPlProdStrat) Production Planning Master Timeline (EcPlTl) Message Handler (EcPlMsh) System Name Server (EcPlSns) Resource Model (EcPlRm)
PDPS DBMS Server	Subscription Manager (EcPlSubMgr) Sybase server (e.g., x0pls02_srvr)
Queuing Server (e.g., x0sps04)	Job Management Server (EcDpPrJobMgmt) Deletion Server (EcDpPrDeletion) Execution Management (EcDpPrEM) AutoSys Event Processor (event_demon) AutoSys Event Server (Sybase server) (e.g., x0sps03_srvr) On-Demand Manager (EcPlOdMgr)
Science Processor (e.g., x0spg01)	PGE Management (EcDpPrRunPGE) Resource Usage (EcDpPrRusage) PGE
SDSRV Server (e.g., x0acs03)	Science Data Server (EcDsScienceDataServer)

Table 13.7-6. Hosts, Servers, Clients and Other Software Relevant to Production Planning and Processing (2 of 2)

HOST	SERVER/CLIENT/OTHER SOFTWARE
Access/Process Coordinators (APC) Server (e.g., x0acg01)	Archive Server (EcDsStArchiveServer) FTP Server (EcDsStFtpServer) Cache Manager Server (EcDsStCacheManagerServer) Staging Disk Server (EcDsStStagingDiskServer) Pull Monitor Server (EcDsStPullMonitorServer)
Ingest Server (e.g., x0icg01)	Registry Server (EcCsRegistry)
Interface Server 01 (e.g., x0ins02)	Advertising Server (EcIoAdServer) Data Dictionary (EcDmDictServer)
Interface Server 02 (e.g., x0ins01)	Subscription Server (EcSbSubServer) Event Server (EcSbEventServer)

NOTE: Depending on the installation, software may be loaded on hosts other than the examples provided.

13.7.1.2 Check Log Files

Log files can provide indications of the following types of problems:

- Communication problems.
- Database problems.
- Lack of disk space.

Table 13.7-7 presents (in a condensed format) the steps required to check log files. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the appropriate host.

- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- **<MODE>** is current mode of operation.
  - TS1 - Science Software Integration and Test (SSI&T)
  - TS2 - New Version Checkout
  - OPS - Normal Operations
- "logs" is the directory containing Production Planning log files (e.g., EcPlPREditor.ALOG, EcPlPREditorDebug.log, EcPlWb.ALOG, EcPlWbDebug.log, EcPlTl.ALOG).

3 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the Production Planning log file to be reviewed (e.g., EcPlPREditor.ALOG, EcPlPREditorDebug.log, EcPlWb.ALOG, EcPlWbDebug.log, EcPlTl.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 Review the log file to identify problems that have occurred.

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 Respond to problems as follows:

- Communication problems.
  – Notify the Operations Controller/System Administrator of suspected communication problems.
- Database problems.
  – Verify that relevant database servers are running.
  – Check for lack of (or corruption of) data in the database using either a database browser or interactive structured query language (isql) commands.
  – Notify the Database Administrator of suspected database problems.
- Lack of disk space.
  – Remove unnecessary files.
  – Notify the Operations Controller/System Administrator of recurring disk space problems.

Table 13.7-7. Check Log Files - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Identify problems indicated in the log file	**read text**
5	Respond to problems as necessary	

13.7.1.3 Check Database Connections

If applications (including the GUIs) are unable to connect to the database, data cannot be retrieved or (in the case of the GUIs) displayed. Consequently, if a GUI does not display data or if the display does not refresh, checking the database connections is a logical step in trying to isolate the problem.

Table 13.7-8 presents (in a condensed format) the steps required to check database connections. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Submit a request to the Database Administrator to identify the values for parameters associated with the appropriate application.

- The following parameters should be requested:
  - **DBName.**
  - **DBServer.**
  - **DBMaxConnections.**
- The preceding parameters are associated with the following applications:
  - EcPlPREditor.
  - EcPlProdStrat.
  - EcPlRm.
  - EcPlSubsEdit.
  - EcPlTl.
  - EcPlWb.

2 Access a terminal window logged in to the Planning/Management Workstation.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

3 At the command line prompt enter:

isql –U <User ID> -S <Database Server>

- **<User ID>** is the database user's identification; e.g., **pdps_role**.
- **<Database Server>** is the database server; e.g., **g0pls02_srvr**.
- For example:

  isql –U pdps_role –S g0pls02_srvr

4 At the **Password:** prompt enter:

<database password>

- **<database password>** is the password for logging in to the database using the specified **<User ID>**.
- A **1>** prompt is displayed, indicating that a connection has been made with the database.

5 At the **1>** prompt enter:

sp_who

6 At the **2>** prompt enter:

go

- A listing of connections to the database is displayed.
- The listing includes data in the following columns::
  - **spid.**
  - **status.**
  - **loginame.**
  - **hostname.**
  - **blk.**
  - **dbname.**
  - **cmd.**

7 At the **1>** prompt enter:

sp_configure "user connections"

8 At the **2>** prompt enter:

go

- A listing of connections to the database is displayed.
- The listing includes the following types of data:
  - **Parameter Name** (i.e., number of user connections).
  - **Default.**
  - **Memory Used.**
  - **Config Value.**
  - **Run Value.**

9 At the **1>** prompt enter:

quit

- The connection with the database is discontinued.

10 Compare the number of actual connections (results of **sp_who**) with the number of connections for which the database has been configured (results of **sp_configure "user connections"**).

11 If the number of actual connections is very close to the number of connections for which the database has been configured, notify the Database Administrator of the fact.

12 If the number of actual connections is **not** very close to the number of connections for which the database has been configured, compare the number of actual connections with the value for DBMaxConnections that the Database Administrator specified (Step 1).

13 If the number of actual connections is very close to the value for DBMaxConnections, notify the Database Administrator of the fact.

- It may be advisable to increase the value assigned to the DBMaxConnections parameter in the Configuration Registry.

Table 13.7-8. Check Database Connections - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Identify the values for database parameters associated with the appropriate Production Planning application	**contact Database Administrator**
2	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
3	**isql –U <User ID> -S <Database Server>**	**enter text, press Enter**
4	**<database password>**	**enter text, press Enter**
5	**sp_who**	**enter text, press Enter**
6	**go**	**enter text, press Enter**
7	**sp_configure "user connections"**	**enter text, press Enter**
8	**go**	**enter text, press Enter**
9	**quit**	**enter text, press Enter**
10	Compare the number of actual connections with the number of connections for which the database has been configured	**read text**
11	Notify the Database Administrator of the results	**contact Database Administrator**

13.7.2 Handle a Failure to Generate DPRs

There are several possible reasons for the Planning Subsystem to fail to generate DPRs. A failure to generate DPRs could be a normal consequence of one of the production rules. For example, if the Closest Granule production rule applies, there may be times when no acceptable input

granules are found. However, a failure to generate DPRs is most likely due to one of the following problems:

- Error creating a subscription for input data.
- **Production Request Editor** does not query DSS.
- Too many granules meet the criteria for input granules for a particular DPR.

A failure due to "too many granules" is caused when too many granules meet the criteria for input granules for a particular DPR.

- At PGE registration, the number of granules expected for each input ESDT is defined.
  - The definition includes the minimum number and the maximum number of granules expected.
- If the number of granules found is not between the minimum and maximum number, the request fails.
  - The failure occurs either when trying to save the production request or when the PCF file is generated (AutoSys pre-processing step).

The following procedures may be involved in investigating a failure to generate DPRs:

- Check the Production Request Editor ALOG File.
- Use ISQL to Check Database Tables.
- Check the PDPS Database for Causes of Failure to Generate DPRs.
- Check for DPR Explosion Failure Because the Production Request Editor Does Not Query DSS for Data.
- Check the Production Request Editor Debug File for Evidence of Metadata Queries.

13.7.2.1 Check the Production Request Editor ALOG File

Table 13.7-9 presents (in a condensed format) the steps required to check the **Production Request Editor** ALOG file. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Planning/Management Workstation.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the planning log files (e.g., EcPlPREditor.ALOG).

3 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the planning log file to be reviewed (e.g., EcPlPREditor.ALOG).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 Review the log file to determine whether the log contains an error message that indicates why the DPR generation failed.

- For example:

  Msg: PlPge::GetInputForDpr - Extr input to process DPR MoPGE01#2007081600OPS, for data type id MOD000#001, with logical id 599001. PlDataTypeReq has a scienceGroup of for this datatype. Expected 2 max inputs, but got 3. Priority : 2 Time : 07/09/99 17:10:52

  – In the example the **Production Request Editor** queried the PDPS database for granules that would satisfy the data needs for the DPR and found three granules instead of the two it expected (i.e., "Expected 2 max inputs, but got 3").
  – Consequently, the Production Request failed due to "too many granules."

- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 If the log does **not** contain an error message that indicates why the DPR generation failed, perform the **Check the PDPS Database for Causes of Failure to Generate DPRs** procedure (Section 13.7.2.3).

6 If there is an error in the log file indicating that too many granules meet the criteria for input granules for a particular DPR, go to the **Check the PDPS Database for Causes of Failure to Generate DPRs** procedure (Section 13.7.2.3).

7 If there is an error in the log file indicating that Advertising could not find an entry for a specific ESDT in its database, notify the Science Data Specialist or whoever else installs ESDTs to verify that the corresponding ESDT(s) has/have been properly installed.

- Advertising receives information concerning ESDTs when they are installed in Science Data Server.

- Advertising puts entries in its database for each ESDT installed and lists the UR of the Data Server (the server UR) that provides services for the ESDT (inserts/acquires/searches).
- If Advertising cannot find an entry for the ESDT in question it indicates either of the following conditions:
  - The ESDT was not installed.
  - The ESDT was not installed properly.

8 If there is an error in the log file indicating a subscription error, notify the Science Data Specialist or whoever else installs ESDTs to verify that the corresponding ESDT(s) has/have been properly installed.

- If subscription errors exist in the log, it is most likely that the ESDT in question (for the input) was either not installed or improperly installed.
- Notify the Science Data Specialist or whoever else installs ESDTs to verify that the corresponding ESDT(s) has/have been properly installed.

9 If there is an error in the log file indicating communication problems, notify the Operations Controller/System Administrator of the suspected communication problems.

10 Access a terminal window logged in to the PDPS DBMS Server host.

- Examples of PDPS DBMS Server host names include **e0pls02**, **g0pls02**, **l0pls01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

11 If there is an error in the log file indicating database problems, at the command line prompt (for the PDPS DBMS Server) enter:

ps –ef | grep sybase

- A listing of processes containing the string "sybase" is displayed:
- If the PDPS database server is running, the following type of message would be displayed:

  /usr/ecs/OPS/COTS/sybase/bin/dataserver -d/dev/rdsk/c0t2d0s4 -sx0pls02_srvr -e/

- If the PDPS database server were **not** running, the following type of message only would be displayed:

  cmshared 15516 15405 0 14:20:33 pts/6 0:00 grep sybase

12 If the database servers are **not** running, notify the Database Administrator of the problem.

13 If there is an error in the log file indicating database problems and the database servers are running, go to the **Check the PDPS Database for Causes of Failure to Generate DPRs** procedure (Section 13.7.2.3).

- Check for lack of (or corruption of) data in the database.

14 If there is an error in the log file indicating lack of disk space, access a terminal window logged in to the Planning/Management Workstation.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

15 If there is an error in the log file indicating lack of disk space, at the command line prompt (for the Planning/Management Workstation) enter:

cd /<path>

- **<path>** indicates the directory path to a directory (on the disk that is full) from which files can be deleted.

16 If there is an error in the log file indicating lack of disk space, at the command line prompt (for the Planning/Management Workstation) enter:

rm <file name 1> … <file name x>

- **<file name 1> … <file name x>** represent unnecessary files to be removed.
- Use wild cards if appropriate.
  - For example:

    rm *.hdf

    would prompt the system to remove all files with a suffix of .hdf.

17 If removing files from a full disk, respond appropriately to system prompts.

- For example:

  rm: remove trashfile.rs (yes/no)? y

18 If there is a recurring disk space problem, notify the Operations Controller/System Administrator of the problem.

19 If the log contains an error message which indicates that a configuration item in another subsystem may be the source of the problems, consult with the relevant technician (e.g., Distribution Technician) to request assistance in isolating the problem.

20 When the problem has been corrected, use the **Create a New Production Request** procedure (Section 13.2.3) to re-create the Production Request that led to discovery of the problem.

Table 13.7-9. Check the Production Request Editor ALOG File - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Review the log file	**read text**
5	Check the PDPS database for causes of failure to generate DPRs (if applicable)	Use procedure in Section 13.7.2.3
6	Notify the Science Data Specialist to verify that the corresponding ESDT(s) has/have been properly installed (If applicable)	**contact Science Data Specialist**
7	Notify the Operations Controller/System Administrator of suspected communication problems (if applicable)	**contact Operations Controller**
8	UNIX window (PDPS DBMS Server host)	**single-click** or use procedure in Section 13.2.1
9	**ps –ef | grep sybase**	**enter text, press Enter**
10	Notify the Database Administrator if the database servers are not running	**contact Database Administrator**
11	Check the PDPS database for causes of failure to generate DPRs (if applicable)	Use procedure in Section 13.7.2.3
12	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
13	**cd /<path>** [for cleaning up disk]	**enter text, press Enter**
14	**rm <file name 1> … <file name x>**	**enter text, press Enter**
15	Consult with other technicians to isolate the problem (as needed)	**contact technician(s)**
16	Create a new Production Request when the problem has been corrected	Use procedure in Section 13.2.3

13.7.2.2 Use ISQL to Check Database Tables

The PDPS database is the repository of data concerning PGEs, Production Requests, Data Processing Requests, Production Strategies, Production Plans and other production-related data. The Subscription Server (SUBSRV) database contains data concerning subscriptions.

The data stored in the database can be checked using either a database browser or isql commands. The procedure in this section describes how to check the tables using isql commands.

Table 13.7-10 presents (in a condensed format) the steps required to use isql to check database tables. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the appropriate host.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- Examples of Subscription Server host names include **e0ins01**, **g0ins01**, **l0ins01**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

isql –U <user ID> -S <database server>

- **<user ID>** is the database user's identification; e.g., **pdps_role**.
- **<database server>** is the database server; e.g., **g0pls02_srvr**.
- For example:

  isql –U pdps_role –S g0pls02_srvr

3 At the **Password:** prompt enter:

<database password>

- **<database password>** is the password for logging in to the database using the specified **<user ID>**.
- A **1>** prompt is displayed, indicating that a connection has been made with the database.

4 At the **1>** prompt enter:

use <database name>

- The **<database name>** is likely to be one of the following names:
  - **pdps** [OPS mode].
  - **pdps_TS1** [TS1 mode].
  - **pdps_TS2** [TS2 mode].

5 At the **2>** prompt enter:

go

6 At the **1>** prompt enter:

select * from <table name>

- Alternatively, enter:

  select <column name> from <table name>

- Another alternative:

  select <column name1>,<column name2>[,<column name3>,…] from <table name>

7 At the **2>** prompt enter:

go

- Table contents are displayed.
  - If * was specified, all entries in the table are displayed.
  - If specific column names were entered, the data associated with those columns only are displayed.

8 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

Table 13.7-10. Use ISQL to Check Database Tables - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (appropriate host)	**single-click** or use procedure in Section 13.2.1
2	**isql –U <user ID> -S <database server>**	**enter text, press Enter**
3	**<database password>**	**enter text, press Enter**
4	**use <database name>**	**enter text, press Enter**
5	**go**	**enter text, press Enter**
6	**select * from <table name>**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	**quit**	**enter text, press Enter**

13.7.2.3 Check the PDPS Database for Causes of Failure to Generate DPRs

The PDPS database is a useful resource for troubleshooting a failure to generate DPRs. Certain values must be entered in tables in the PDPS database during the DPR generation process in order for the DPRs to be successfully generated.

- The subscriptionFlag values (PlDataTypeMaster table) for all the data types (ESDTs) needed for the PGE are set.
- The Science Data Server UR is entered in the dataServUrString column (PlDataTypeMaster table) for all data types (ESDTs) needed for the PGE.
- If the PGE specified in the Production Request requires static files, the URs for the static files are included in PlDataGranuleShort table (universalReference column).

Table 13.7-11 presents (in a condensed format) the steps required to check the PDPS database for causes of failure to generate DPRs. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

2 At the **1>** prompt enter:

select dataTypeId,subscriptionFlag from PlDataTypeMaster

- Prepare a request to view PlDataTypeMaster table subscriptionFlag column values for all data types (dataTypeId column).

3 At the **2>** prompt enter:

go

- Contents of specified columns of the **PlDataTypeMaster** table are displayed.
- During DPR generation, the DPR executable should turn the subscriptionFlag for all the data types (ESDTs) needed for the PGE from zero to non-zero.
- If the subscriptionFlag values for the data types did not turn to non-zero, subscription trouble is indicated.

4 If the subscriptionFlag value for any ESDT needed for the PGE is **zero**, make a note of the fact for subsequent reporting of the problem.

5 At the **1>** prompt enter:

select dataTypeId,dataServUrString from PlDataTypeMaster

- Prepare a request to view PlDataTypeMaster table dataServUrString column values for all data types.

6 At the **2>** prompt enter:

go

- Contents of specified columns of the **PlDataTypeMaster** table are displayed.
- During DPR generation, the DPR executable should turn the dataServUrString for all the ESDTs needed for the PGE from "NULL" to the UR value for Science Data Server (e.g., UR:15:DsShSciServerUR:13:[MDC:DSSDSRV]).

7 If the dataServUrString value for any ESDTs needed for the PGE does not have the UR value for the Science Data server (e.g., is NULL), make a note of the fact for subsequent reporting of the problem.

8 If the PGE specified in the Production Request requires static files, at the **1>** prompt enter:

select dataTypeId,universalReference from PlDataGranuleShort

- Prepare a request to view PlDataGranuleShort table universalReference column for the URs of the necessary static files.
- If there is data on many data types in the PlDataGranuleShort table, it may be advisable to limit the search, for example:

  1> select dataTypeId,universalReference from PlDataGranuleShort where dataTypeId = "AM1ATTNF#001"

  – In the example **AM1ATTNF#001** is the data type being checked.

9 At the **2>** prompt enter:

go

- Contents of specified columns of the **PlDataGranuleShort** table are displayed.
- If the PGE requires static files, the URs for the static files must be included in the PlDataGranuleShort table in order for a DPR to be successfully generated.
- For dynamic granules, the corresponding UR values may become available during DPR generation; however, if the dynamic granules' URs do not become available during DPR generation, there is no effect on DPR generation.

10 If the PGE requires static files, and the URs for the static files are **not** in the PlDataGranuleShort table, make a note of the fact for subsequent reporting of the problem.

11 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

12 If any problems were noted in the PDPS database, report the problem(s) to the SSI&T team and/or call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

- There may be a problem with PGE registration (especially if no other PGEs are affected) or other problem associated with the SSI&T process.

Table 13.7-11. Check the PDPS Database for Causes of Failure to Generate DPRs - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 13.7.2.2
2	**select dataTypeId,subscriptionFlag from PlDataTypeMaster**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**select dataTypeId,dataServUrString from PlDataTypeMaster**	**enter text, press Enter**
5	**go**	**enter text, press Enter**
6	**select dataTypeId,universalReference from PlDataGranuleShort**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	**quit**	**enter text, press Enter**
9	Report all problems to the SSI&T team and/or call the help desk and submit a trouble ticket	**contact SSI&T team**

13.7.2.4 Check for DPR Explosion Failure Because the Production Request Editor Does Not Query DSS for Data

If the Production Request Editor reports a failure creating a DPR that is subject to the Metadata Query production rule, the process for responding to the problem consists of the following activities:

- Check the "debug" log for evidence that the Science Data Server was queried for metadata values.
- If there is no message in the debug log indicating that the Science Data Server was queried for metadata values, the SSI&T team should check for an error in the appropriate PGE science metadata ODL file.

13.7.2.5 Check the Production Request Editor Debug File for Evidence of Metadata Queries

Table 13.7-12 presents (in a condensed format) the steps required to check the Production Request Editor debug file for evidence of metadata queries. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Planning/Management Workstation.

- Examples of Planning/Management Workstation host names include **e0pls03**, **g0pls01**, **l0pls02**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the planning log files (e.g., EcPlPREditorDebug.log).

3 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the planning log file to be reviewed (e.g., EcPlPREditorDebug.log).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 Review the log file to determine whether the log contains a message that indicates why the DPR generation failed.

- When the Production Request Editor queries the Science Data Server to search for the PGE's input(s), the query should include the metadata value(s) desired by the PGE.
- Note that events are recorded in the debug log in chronological order and are preceded by a time and date stamp.
- If there is no message which indicates that the Science Data Server was queried for the metadata value(s) desired by the PGE, there may be an error in the PGE Metadata ODL File for the PGE.
- To exit from **pg** at the **:** prompt enter:

  q

  – The command line prompt is displayed.

5 If there was no message in the debug log indicating that the Science Data Server was queried for metadata values, submit a request to the SSI&T team to check for an error in the appropriate PGE science metadata ODL file and re-register the PGE.

- After the SSI&T team has edited the ODL file and re-registered the PGE it should be possible to successfully create DPRs for the PGE.

Table 13.7-12. Check the Production Request Editor Debug File for Evidence of Metadata Queries - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Planning/Management Workstation)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Review the log file	**read text**
5	Ask the SSI&T team to check for errors in the PGE science metadata ODL file (if there was no metadata query message in the debug log)	**contact SSI&T team**

13.7.3 Respond to PR or DPR Deletion that Hangs

When deleting DPRs or PRs from the Production Request Editor, the Job Management server and Deletion Server (both in DPS) are called to clean up all PDPS database tables associated with the DPR or PR. It is possible that any failure or "hung" condition can be attributed to the Production Request Editor itself or the Deletion or Job Management server. If the servers are functioning properly, there are two other possible causes:

- The database is locked.
- There may be resource locks in the PDPS database.

Accordingly, the following procedures may be involved in responding to PR or DPR deletion that hangs:

- Check for Database Deadlocks.
- Check for Resource Locks in the PDPS Database.

13.7.3.1 Check for Database Deadlocks

A deadlock occurs when a database transaction locks a record that another transaction needs and the second transaction locks the record that first transaction needs. Each program must wait until the other completes. However, neither can complete (because each is waiting for the other) so both end up waiting indefinitely.

Table 13.7-13 presents (in a condensed format) the steps required to check for database deadlocks. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

2 At the **1>** prompt enter:

sp_lock

3 At the **2>** prompt enter:

go

- Results displayed include the following features:
  - **spid** column shows the process id. The database user that owns a process can be determined using the **sp_who** isql command.
  - **locktype** column indicates a problem if the entry starts with "Ex_" (exclusive).
  - **table_id** column identifies the table that the corresponding spid has locked. The name of the table can be determined using the **select** command [i.e., **select object_name (table_id)**].

4 At the **1>** prompt enter:

select object_name (<table id>)

- For example, to check the exclusive locks related to spid 24, table ID 197575742, enter:

  1> select object_name (197575742)

5 At the **2>** prompt enter:

go

- The object name is displayed (e.g., PlDprData).

6 At the **1>** prompt enter:

sp_who

7 At the **2>** prompt enter:

go

- A listing of connections to the database is displayed.
- The listing includes data in the following columns:
  - **spid.**
  - **status.**
  - **loginame.**
  - **hostname.**
  - **blk.**
  - **dbname.**
  - **cmd.**

8 Analyze the results of the request.

- The **blk** column shows the spid of the process that is doing the blocking.
- The **cmd** column shows the command that the blocked process is trying to complete.

9 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

10 If there is a deadlock in the database, ask the Operations Controller to bounce the server that is causing the deadlock.

11 If there is no deadlock, perform the **Check for Resource Locks in the PDPS Database** procedure (Section 13.7.3.1).

Table 13.7-13. Check for Database Deadlocks - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 13.7.2.2
2	**sp_lock**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**select object_name (<table id>)**	**enter text, press Enter**
5	**go**	**enter text, press Enter**
6	**sp_who**	**enter text, press Enter**
7	**go**	**enter text, press Enter**
8	Analyze the results of the request	**read text**
9	**quit**	**enter text, press Enter**
10	Ask the Operations Controller to bounce any server that is causing a deadlock (if applicable)	**contact Operations Controller**
11	Check for resource locks in the PDPS database (if there is no deadlock)	Use procedure in Section 13.7.3.1

13.7.3.1 Check for Resource Locks in the PDPS Database

Resource locks used to occur if there was an attempt to delete DPRs/PRs while their corresponding jobs were still running in AutoSys or jobs had been explicitly killed before the DPRs/PRs were deleted. However, resource locking has been removed for all Resource Management calls (e.g., for allocating CPUs and disk space). The locks have been replaced with the following features:

- Sybase stored procedures that use transactions.
- Database triggers.

Resource locking is still used for disk space reclamation. Momentary system interruptions occur during the process of disk space reclamation. The interruptions may happen several times a day. The system may look like it is "hung" during such periods. The procedure that follows should be performed to verify that disk space reclamation is proceeding normally:

Although the procedure for checking for resource locks in the PDPS database includes the use of isql commands, an acceptable alternative is to use a database browser to check the contents of the DpPrResourceLock table.

Table 13.7-14 presents (in a condensed format) the steps required to check for resource locks in the PDPS database. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

2 At the **1>** prompt enter:

select * from DpPrResourceLock

- Prepare a request to view the contents of the DpPrResourceLock table.

3 At the **2>** prompt enter:

go

- The contents of the **DpPrResourceLock** table are displayed.
- The listing includes data in the following columns:
  - **jobId.**
  - **priority.**
  - **ecsUnit.**
  - **attempts.**
  - **state.**
  - **pid.**
  - **queuePosition.**

4 Analyze the results of the request.

- A jobId with a state <> 0 would indicate a resource lock.
  - If there are entries in the **DpPrResourceLock** table and there are no other jobs running in AutoSys, all entries in the table need to be deleted before the DPR/PR deletion can complete.
  - If other jobs (DPRs) are currently being executed in AutoSys and the other jobs should not be deleted, the entries in the table that need to be deleted are those related to the job to be deleted only. The entries concerning the other (running) jobs must be left in the table.
- If there is no evidence of a resource lock, go to Step 8.

5 If all entries in the DpPrResourceLock table are to be deleted, at the **1>** prompt enter:

delete DpPrResourceLock

- Go to Step 7.

6 If some (but not all) entries in the DpPrResourceLock table are to be deleted, at the **1>** prompt enter:

delete DpPrResourceLock where jobId like "<job Id>"

- **<job Id>** specifies the job whose entries are to be deleted.

7 At the **2>** prompt enter:

go

- Entries in the **DpPrResourceLock** table are deleted.
- The DPR/PR deletion that was delayed by the resource lock should go to completion.

8 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.
- If entries were deleted from the DpPrResourceLock table the procedure is finished; otherwise, continue with Step 9.

9 Access a terminal window logged in to the Queuing Server.

- Examples of Queuing Server host names include **e0sps04**, **g0sps06**, **l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

10 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the data processing log files (e.g., EcDpPrJobMgmt.ALOG, EcDpPrDeletion.ALOG).

11 At the command line prompt enter:

tail -f <job Id>.err

- **<job Id>.err** refers to the data processing log file to be reviewed.

12 Observe the log file to determine whether entries are being made in the file.

- If messages are being entered in the log file, there is probably no resource lock.

13 To quit tailing the log in the terminal window enter:

Ctrl-C

- A command line prompt is displayed in the terminal window.

14 Ensure that it is possible to connect to the necessary hosts and servers.

- For detailed instructions refer to the **Check Connections To Hosts/Servers** procedure (Section 13.7.1.1).

15 If no there is no database deadlock or resource lock and the Data Processing Subsystem servers (especially Deletion Server and Job Management Server) are up, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 13.7-14. Check for Resource Locks in the PDPS Database - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 13.7.2.2
2	**select * from DpPrResourceLock**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	Analyze the results of the request.	**read text**
5	**delete DpPrResourceLock** or **delete DpPrResourceLock where jobId like "<job Id>"** (as applicable)	**enter text, press Enter**
6	**go** (if applicable)	**enter text, press Enter**
7	**quit**	**enter text, press Enter**
8	UNIX window (Queuing Server)	**single-click** or use procedure in Section 13.2.1
9	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
10	**tail -f <job Id>.err**	**enter text, press Enter**
11	Observe the log file (Are entries are being made in the log file?)	**read text**
12	**Ctrl-C**	**enter text**
13	Check connections to hosts/servers	Use procedure in Section 13.7.1.1
14	Call the help desk and submit a trouble ticket (if applicable)	Use procedure in Chapter 8

13.7.4 Respond to DPR Deletion that Fails

When deleting DPRs or PRs from the Production Request Editor, both the Job Management server and Deletion Server (both DPS servers) are called to clean up all PDPS database tables

associated with the DPR or PR. It is possible that any failure or "hung" condition can be attributed to the Production Request Editor itself or to the Job Management server or Deletion Server.

Table 13.7-15 presents (in a condensed format) the steps required to respond to DPR deletion that fails. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Access a terminal window logged in to the Queuing Server host.

- Examples of Queuing Server host names include **e0sps04**, **g0sps06**, **l0sps03**.
- For detailed instructions refer to the **Log in to ECS Hosts** procedure (Section 13.2.1).

2 At the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- Change directory to the directory containing the Data Processing Subsystem log files (e.g., EcDpPrDeletionDebug.log).

3 If there is a Deletion Server Debug log, at the command line prompt enter:

pg <file name>

- **<file name>** refers to the Data Processing Subsystem log file to be reviewed (e.g., EcDpPrDeletionDebug.log).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

4 If there is a Deletion Server Debug log, review the log file for error messages.

- For example:

  Could not make database interface to DpPrFile
  Aborting: will report error to client.

- The message in the example indicates a compilation problem in Deletion Server so Deletion Server cannot communicate with the PDPS database.
  - When Deletion Server was compiled the RogueWave database (RWDB) libraries were not linked correctly.
  - The most likely cause is the fact that the Deletion Server Imakefile was changed so that the DPS make.options was included.
- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

5 If an error message of the type shown in the previous step was present in the log, notify the Operations Controller/System Administrator of the problem.

Table 13.7-15. Respond to DPR Deletion that Fails - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	UNIX window (Queuing Server)	**single-click** or use procedure in Section 13.2.1
2	**cd /usr/ecs/<MODE>/CUSTOM/logs**	**enter text, press Enter**
3	**pg <file name>**	**enter text, press Enter**
4	Review the log file	**read text**
5	Notify the Operations Controller/System Administrator of the problem (if applicable)	**contact Operations Controller**

13.7.5 Handle a DPR Scheduling Failure

There are three principal sources of information concerning failures to activate DPRs from the Planning Workbench:

- The Planning Workbench GUI itself may provide an error message.
  - The message would indicate either success or failure.
  - It would not indicate why the request failed.
- The Planning Workbench Message Handler (the window that comes up before the Planning Workbench and to which the Workbench logs various messages).
  - Any error encountered should be logged to the Message Handler.
- The Planning Workbench logs (debug log and ALOG).
  - The logs are located in the /usr/ecs/<MODE>/CUSTOM/logs directory and begin with “EcPlWb” (e.g., EcPlWbDebug.log, EcPlWb.ALOG).
  - The logs can further refine the cause of the error.

If job activation fails from the Planning Workbench, one of the following errors is likely to be reported:

- "DPR Validation Failed"
- "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}"

Accordingly, the following procedures may be involved in handling a DPR scheduling failure:

- Respond to a "DPR Validation Failed" Error.
- Respond to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" Error.

13.7.5.1 Respond to a "DPR Validation Failed" Error

There are two conditions that may cause a "DPR Validation Failed" error to be reported:

- Performance data for the PGE are missing from the PDPS PlPgePerformance database table.
- Resource information for the PGE is missing from the PDPS PlResourceRequirement database table.

Consequently, it is necessary to check the appropriate PDPS database tables to determine whether the necessary PGE information is in the database.

Although the procedure for responding to a "DPR Validation Failed" error includes the use of isql commands, an acceptable alternative is to use a database browser to check the contents of the PlPerformance and PlPgePerformance tables.

Table 13.7-16 presents (in a condensed format) the steps required to respond to a "DPR Validation Failed" error. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

2 At the **1>** prompt enter:

select * from PlPgePerformance

- Prepare a request to view the contents of the PlPgePerformance table.

3 At the **2>** prompt enter:

go

- The contents of the **PlPgePerformance** table are displayed.
- The listing includes data in the following columns:
  - **pgeId.**
  - **cpuTime.**
  - **pgeElapsedTime.**
  - **dprElapsedTime.**
  - **maxMemory.**
  - **faults.**
  - **swaps.**
  - **blockInputOperation.**
  - **blockOutputOperation.**
  - **runCpuTime.**
  - **runMaxMemory.**

- **runPgeElapsed.**
- **runDprElapsed.**
- **runFaults.**
- **runSwaps.**
- **runBlockInOperation.**
- **runBlockOutOperation.**
- **sharedMemory.**
- **runSharedMemory.**

- For the PGE(s) that is (are) not schedulable, verify there are non-zero values for the entries in the table.
  - Zero may be appropriate for some columns but not for all.

4 At the **1>** prompt enter:

select * from PlResourceRequirement

- Prepare a request to view the contents of the PlResourceRequirement table.

5 At the **2>** prompt enter:

go

- The contents of the **PlResourceRequirement** table are displayed.
- The listing includes data in the following columns:
  - **sswId.**
  - **string.**
  - **numOfCPUs.**
  - **computer.**
  - **diskSpace.**
  - **topLevelShellName.**
  - **exeTarFileDiskSpace.**
  - **mcfName.**
  - **ramSize.**
  - **exeUntarFileDiskSpace.**
  - **exeTarUR.**
  - **pgeId.**
  - **toolkitArchitecture.**
  - **pgeCommands.**
- For the PGE(s) that is (are) not schedulable, verify that there are non-zero values for the entries in the table.
  - Zero may be appropriate for some columns but not for all.

6 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

7 If the entries in either the **PlPgePerformance** or **PlResourceRequirement** table are not appropriate, make a request to the SSI&T team to have the correct values entered.

8 Delete the affected DPR(s) as described in the **Delete a Data Processing Request** procedure (Section 13.2.7).

9 When the SSIT team has completed updating the PGE information in the PDPS database, create a new Production Request to replace the affected DPR(s) as described in the **Create a New Production Request** procedure (Section 13.2.3).

10 Create and activate a new Production Plan (to send the replacement DPR(s) to data processing) as described in the **Create a New Production Plan** procedure (Section 13.4.2).

Table 13.7-16. Respond to a "DPR Validation Failed" Error - Quick-Step Procedures

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 13.7.2.2
2	**select * from PlPgePerformance**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**select * from PlResourceRequirement**	**enter text, press Enter**
5	**go**	**enter text, press Enter**
6	**quit**	**enter text, press Enter**
7	Ask the SSI&T team to have the correct values entered in the database tables (if applicable)	**contact SSI&T team**
8	Delete the affected DPR(s)	Use procedure in Section 13.2.7
9	Create a new Production Request to replace the affected DPR(s) when the SSIT team has completed updating the PGE information in the PDPS database	Use procedure in Section 13.2.3
10	Create and activate a new Production Plan (to send the replacement DPR(s) to data processing)	Use procedure in Section 13.4.2

13.7.5.2 Respond to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" Error

When an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" error is reported on the Message Handler, one of two problems is likely:

- A predecessor DPR exited in a "bad" state.
  - The unschedulable DPR depends on the predecessor DPR for input data.

  - The predecessor DPR is in either a completed or an error status, or was not included in the activated plan.
- The current DPR has a "QA_FAILURE."
  - A metadata check or query for the DPR failed so the DPR cannot be scheduled.

Consequently, it is necessary to check the appropriate PDPS database tables and possibly the Planning Workbench debug log to localize the problem.

Although the procedure for responding to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" error includes the use of isql commands, an acceptable alternative is to use a database browser to check the contents of the appropriate tables.

Table 13.7-17 presents (in a condensed format) the steps required to respond to a "DPR Validation Failed" error. If you are already familiar with the procedures, you may prefer to use the quick-step table. If you are new to the system, or have not performed this task recently, you should use the following detailed procedures:

1 Log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

2 At the **1>** prompt enter:

select * from PlDataProcessingRequest

- Prepare a request to view the contents of the PlDataProcessingRequest table.
- If there is data on many DPRs in the PlDataProcessingRequest table, it may be advisable to limit the search, for example:

  1> select * from PlDataProcessingRequest where dprId like "AM1Eph#30002282200TS2"

  - In the example **AM1Eph#30002282200TS2** is the predecessor DPR being checked.

3 At the **2>** prompt enter:

go

- The contents of the **PlDataProcessingRequest** table are displayed.
- The listing includes data in the following columns:
  - **dprId.**
  - **productionRequestId.**
  - **priority.**
  - **predictedStart.**
  - **actualStart.**
  - **completionState.**

- **pgeId.**
- **baselineTime.**
- **name.**
- **dataStartTime.**
- **dataStopTime.**
- **sswId.**
- **dprCollectionId.**
- **alarmTime.**
- **lateMessagesSent.**
- **autosysId.**
- **tileId.**
- **timeStamp.**

- For the predecessor DPR to the unschedulable DPR, verify that the **completionState** is **SUCCESS**.

4 To exit from **isql** at the **1>** prompt enter:

quit

- The connection with the database is discontinued.

5 If the **completionState** for the predecessor DPR to the unschedulable DPR is **not SUCCESS**, perform Steps 6 through 8; otherwise, go to Step 9.

- For example, if **completionState** is **FAILEDPGE** or **CANCELED**, perform Steps 6 through 8.

6 Delete the unschedulable DPR(s) and its predecessor(s) as described in the **Delete a Data Processing Request** procedure (Section 13.2.7).

7 Create new Production Request(s) to replace the affected DPR(s) as described in the **Create a New Production Request** procedure (Section 13.2.3).

8 Create and activate a new Production Plan (to send the replacement DPR(s) to data processing) as described in the **Create a New Production Plan** procedure (Section 13.4.2).

- End of procedure.

9 If the **completionState** for the predecessor DPR to the unschedulable DPR is **SUCCESS**, at the command line prompt enter:

cd /usr/ecs/<MODE>/CUSTOM/logs

- For**<MODE>** type the desired operating mode.
- Change directory to the directory containing the appropriate log files (e.g., EcPlWbDebug.log).

10 At the command line prompt enter:

pg <file name>

- **<file name>** refers to the planning log file to be reviewed (e.g., EcPlWbDebug.log).
- The first page of the log file is displayed.
- Although this procedure has been written for the **pg** command, any UNIX editor or visualizing command (e.g., **more**, **vi**, **view**) can be used to review the log file.

11 Review the log file to determine whether the log contains an error message (concerning the unschedulable DPR) that indicates why the DPR generation failed.

- Look for an entry for the unschedulable DPR that contains either "QA_FAILURE" or "INVALID."
  - "QA_FAILURE" indicates a problem with a metadata check/query so the DPR cannot be scheduled.
  - "INVALID" indicates that DPR validation failed.
- To exit from **pg** at the **:** prompt enter:

  q

  - The command line prompt is displayed.

12 If the log contains an error message that includes the term "INVALID", perform the **Respond to a "DPR Validation Failed" Error** procedure (Section 13.7.5.1).

13 If the log contains a "QA_FAILURE" error message, log in to the PDPS database.

- Database log-in is described in Steps 1 through 5 of the **Use ISQL to Check Database Tables** procedure (Section 13.7.2.2).

14 At the **1>** prompt enter:

select * from PlDprData

- Prepare a request to view the contents of the PlDprData table.
- If there is data on many DPRs in the PlDprData table, it may be advisable to limit the search, for example:

  1> select * from PlDprData where dprId like "ACT#syn1#004130123TS2"

  - In the example **ACT#syn1#004130123TS2** is the predecessor DPR being checked.

15 At the **2>** prompt enter:

go

- The contents of the **PlDprData** table are displayed.
- The listing includes data in the following columns:
  - **dprId.**
  - **granuleId.**

- **logicalId.**
- **primaryType.**
- **accepted.**
- **theOrder.**
- **type.**
- **temporalFlag.**
- **timeWait.**
- **ioFlag.**
- **timerExp.**
- **timerStart.**
- **numNeeded.**
- **waitForFlag.**
- **linkId.**
- **minGranReq.**

- Note that for each DPR there are separate entries for the different data types.
- For all entries for the unschedulable DPR, verify that the values in the **accepted** column are **not** equal to 2.
  - A value of 2 in the **accepted** column indicates that the metadata check/query for the corresponding input (**granuleId** column) failed.

16 At the **1>** prompt enter:

select * from PlEsdtParam

- Prepare a request to view the contents of the PlEsdtParam table.
- If there is data on many DPRs in the PlEsdtParam table, it may be advisable to limit the search, for example:

  1> select * from PlEsdtParam where dataTypeId like "AST_L1B#001"

  - In the example **AST_L1B#001** is the data type being checked.

17 At the **2>** prompt enter:

go

- The contents of the **PlEsdtParam** table are displayed.
- The listing includes data in the following columns:
  - **dataTypeId.**
  - **paramName.**
  - **paramType.**
  - **containerName.**
  - **secondParm.**
  - **secondValue.**
- Verify that there are entries for the appropriate **dataTypeId** in the PlEsdtParam table.

18 If no entry for the unschedulable DPR has a value equal to 2 in the **accepted** column, at the **1>** prompt enter:

select * from PlEsdtParmValues

- Prepare a request to view the contents of the PlEsdtParmValues table.

19 At the **2>** prompt enter:

go

- The contents of the **PlEsdtParmValues** table are displayed.
- The listing includes data in the following columns:
  - **esdtParmName.**
  - **esdtParmVal.**
  - **granuleId.**
  - **secondParm.**
  - **secondValue.**
- Verify that there are entries for the appropriate data type (in the **granuleId** column) in the PlEsdtParmValues table.

20 If there are entries for the appropriate data type in the **PlEsdtParam** and **PlEsdtParmValues** tables, at the **1>** prompt enter:

select * from PlMetadataChecks

- Prepare a request to view the contents of the PlMetadataChecks table.
- If there is data on many data types in the PlMetadataChecks table, it may be advisable to limit the search, for example:

  1> select * from PlMetadataChecks where dataTypeId like "AST_L1B#001"

  - In the example **AST_L1B#001** is the data type being checked.

21 At the **2>** prompt enter:

go

- The contents of the **PlMetadataChecks** table are displayed.
- The listing includes data in the following columns:
  - **pgeId.**
  - **dataTypeId.**
  - **paraName.**
  - **logicalId.**
  - **type.**
  - **operator.**
  - **value.**
  - **ioFlag.**
  - **queryFlag.**

- **queryType.**
- **secondParm.**
- **secondValue.**

- Verify that the entries for the appropriate data type in the PlEsdtParam and PlEsdtParmValues tables match the expected values in the PlMetadataChecks table.

22 If an entry for the unschedulable DPR has a value equal to 2 in the **accepted** column of the **PlDprData** table (Step 15), make a record of the fact that the PGE cannot be run on the specified input data.

- The metadata check/query for the corresponding input failed.
- It may be possible to either reingest or reprocess the input data that failed the metadata check or query.
  - Steps 17 through 21 can give indications as to which applies, based on the data type(s) involved.

23 If no problem is identified in the preceding steps, call the help desk and submit a trouble ticket in accordance with site Problem Management policy.

Table 13.7-17. Respond to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" Error - Quick-Step Procedures (1 of 2)

Step	What to Enter or Select	Action to Take
1	Log in to the PDPS database	Use procedure in Section 13.7.2.2
2	**Select * from PlDataProcessingRequest**	**enter text, press Enter**
3	**go**	**enter text, press Enter**
4	**quit**	**enter text, press Enter**
5	Go to Step 9 if the **completionState** for the predecessor DPR to the unschedulable DPR is "SUCCESS"	
6	Delete the unschedulable DPR(s) and its predecessor(s)	Use procedure in Section 13.2.7
7	Create new Production Request(s) to replace the affected DPR(s)	Use procedure in Section 13.2.3
8	Create and activate a new Production Plan [end of procedure]	Use procedure in Section 13.4.2
9	**cd /usr/ecs/<MODE>/CUSTOM/logs** (if applicable)	**enter text, press Enter**
10	**pg <file name>**	**enter text, press Enter**
11	Review the log file	**read text**
12	Respond to the "DPR Validation Failed" error (if applicable)	Use procedure in Section 13.7.5.1
13	Log in to the PDPS database (if applicable)	Use procedure in Section 13.7.2.2
14	**select * from PlDprData**	**enter text, press Enter**

Table 13.7-17. Respond to an "information (INFO) Production Request {Production Request Id} has unschedulable DPR {DPR Id}" Error - Quick-Step Procedures (2 of 2)

Step	What to Enter or Select	Action to Take
15	**go**	**enter text, press Enter**
16	**select * from PlEsdtParam**	**enter text, press Enter**
17	**go**	**enter text, press Enter**
18	**select * from PlEsdtParmValues** (if applicable)	**enter text, press Enter**
19	**go**	**enter text, press Enter**
20	**select * from PlMetadataChecks** (if applicable)	**enter text, press Enter**
21	**go**	**enter text, press Enter**
22	Make a record of the fact that the PGE cannot be run on the specified input data (if applicable)	**enter text**
23	Call the help desk and submit a trouble ticket in accordance with site Problem Management policy (if applicable)	Use procedure in Chapter 8